



## Metallized Polyester Capacitors (MKT)

**Series/Type:** B32559

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C8822M489		2020-05-29	2020-09-30	2020-12-31
B32559C8822M389		2020-05-29	2020-09-30	2020-12-31
B32559C8822M289		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C8822M189		2020-05-29	2020-09-30	2020-12-31
B32559C8822M001		2020-05-29	2020-09-30	2020-12-31
B32559C8822M000		2020-05-29	2020-09-30	2020-12-31
B32559C8822K489		2020-05-29	2020-09-30	2020-12-31
B32559C8822K389		2020-05-29	2020-09-30	2020-12-31
B32559C8822K289		2020-05-29	2020-09-30	2020-12-31
B32559C8822K189		2020-05-29	2020-09-30	2020-12-31
B32559C8822K001		2020-05-29	2020-09-30	2020-12-31
B32559C8822K000		2020-05-29	2020-09-30	2020-12-31
B32559C8822J489		2020-05-29	2020-09-30	2020-12-31
B32559C8822J389		2020-05-29	2020-09-30	2020-12-31
B32559C8822J289		2020-05-29	2020-09-30	2020-12-31
B32559C8822J189		2020-05-29	2020-09-30	2020-12-31
B32559C8822J001		2020-05-29	2020-09-30	2020-12-31
B32559C8822J000		2020-05-29	2020-09-30	2020-12-31
B32559C8682M489		2020-05-29	2020-09-30	2020-12-31
B32559C8682M389		2020-05-29	2020-09-30	2020-12-31
B32559C8682M289		2020-05-29	2020-09-30	2020-12-31
B32559C8682M189		2020-05-29	2020-09-30	2020-12-31
B32559C8682M001		2020-05-29	2020-09-30	2020-12-31
B32559C8682M000		2020-05-29	2020-09-30	2020-12-31
B32559C8682K489		2020-05-29	2020-09-30	2020-12-31
B32559C8682K389		2020-05-29	2020-09-30	2020-12-31
B32559C8682K289		2020-05-29	2020-09-30	2020-12-31
B32559C8682K189		2020-05-29	2020-09-30	2020-12-31
B32559C8682K001		2020-05-29	2020-09-30	2020-12-31
B32559C8682K000		2020-05-29	2020-09-30	2020-12-31
B32559C8682J489		2020-05-29	2020-09-30	2020-12-31
B32559C8682J389		2020-05-29	2020-09-30	2020-12-31
B32559C8682J289		2020-05-29	2020-09-30	2020-12-31
B32559C8682J189		2020-05-29	2020-09-30	2020-12-31
B32559C8682J001		2020-05-29	2020-09-30	2020-12-31
B32559C8682J000		2020-05-29	2020-09-30	2020-12-31
B32559C8472M489		2020-05-29	2020-09-30	2020-12-31
B32559C8472M389		2020-05-29	2020-09-30	2020-12-31
B32559C8472M289		2020-05-29	2020-09-30	2020-12-31
B32559C8472M189		2020-05-29	2020-09-30	2020-12-31
B32559C8472M001		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C8472M000		2020-05-29	2020-09-30	2020-12-31
B32559C8472K489		2020-05-29	2020-09-30	2020-12-31
B32559C8472K389		2020-05-29	2020-09-30	2020-12-31
B32559C8472K289		2020-05-29	2020-09-30	2020-12-31
B32559C8472K189		2020-05-29	2020-09-30	2020-12-31
B32559C8472K001		2020-05-29	2020-09-30	2020-12-31
B32559C8472K000		2020-05-29	2020-09-30	2020-12-31
B32559C8472J489		2020-05-29	2020-09-30	2020-12-31
B32559C8472J389		2020-05-29	2020-09-30	2020-12-31
B32559C8472J289		2020-05-29	2020-09-30	2020-12-31
B32559C8472J189		2020-05-29	2020-09-30	2020-12-31
B32559C8472J001		2020-05-29	2020-09-30	2020-12-31
B32559C8472J000		2020-05-29	2020-09-30	2020-12-31
B32559C8332M489		2020-05-29	2020-09-30	2020-12-31
B32559C8332M389		2020-05-29	2020-09-30	2020-12-31
B32559C8332M289		2020-05-29	2020-09-30	2020-12-31
B32559C8332M189		2020-05-29	2020-09-30	2020-12-31
B32559C8332M001		2020-05-29	2020-09-30	2020-12-31
B32559C8332M000		2020-05-29	2020-09-30	2020-12-31
B32559C8332K489		2020-05-29	2020-09-30	2020-12-31
B32559C8332K389		2020-05-29	2020-09-30	2020-12-31
B32559C8332K289		2020-05-29	2020-09-30	2020-12-31
B32559C8332K189		2020-05-29	2020-09-30	2020-12-31
B32559C8332K001		2020-05-29	2020-09-30	2020-12-31
B32559C8332K000		2020-05-29	2020-09-30	2020-12-31
B32559C8332J489		2020-05-29	2020-09-30	2020-12-31
B32559C8332J389		2020-05-29	2020-09-30	2020-12-31
B32559C8332J289		2020-05-29	2020-09-30	2020-12-31
B32559C8332J189		2020-05-29	2020-09-30	2020-12-31
B32559C8332J001		2020-05-29	2020-09-30	2020-12-31
B32559C8332J000		2020-05-29	2020-09-30	2020-12-31
B32559C8272M489		2020-05-29	2020-09-30	2020-12-31
B32559C8272M389		2020-05-29	2020-09-30	2020-12-31
B32559C8272M289		2020-05-29	2020-09-30	2020-12-31
B32559C8272M189		2020-05-29	2020-09-30	2020-12-31
B32559C8272M001		2020-05-29	2020-09-30	2020-12-31
B32559C8272M000		2020-05-29	2020-09-30	2020-12-31
B32559C8272K489		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C8272K389		2020-05-29	2020-09-30	2020-12-31
B32559C8272K289		2020-05-29	2020-09-30	2020-12-31
B32559C8272K189		2020-05-29	2020-09-30	2020-12-31
B32559C8272K001		2020-05-29	2020-09-30	2020-12-31
B32559C8272K000		2020-05-29	2020-09-30	2020-12-31
B32559C8272J489		2020-05-29	2020-09-30	2020-12-31
B32559C8272J389		2020-05-29	2020-09-30	2020-12-31
B32559C8272J289		2020-05-29	2020-09-30	2020-12-31
B32559C8272J189		2020-05-29	2020-09-30	2020-12-31
B32559C8272J001		2020-05-29	2020-09-30	2020-12-31
B32559C8272J000		2020-05-29	2020-09-30	2020-12-31
B32559C8222M489		2020-05-29	2020-09-30	2020-12-31
B32559C8222M389		2020-05-29	2020-09-30	2020-12-31
B32559C8222M289		2020-05-29	2020-09-30	2020-12-31
B32559C8222M189		2020-05-29	2020-09-30	2020-12-31
B32559C8222M001		2020-05-29	2020-09-30	2020-12-31
B32559C8222M000		2020-05-29	2020-09-30	2020-12-31
B32559C8222K489		2020-05-29	2020-09-30	2020-12-31
B32559C8222K389		2020-05-29	2020-09-30	2020-12-31
B32559C8222K289		2020-05-29	2020-09-30	2020-12-31
B32559C8222K189		2020-05-29	2020-09-30	2020-12-31
B32559C8222K001		2020-05-29	2020-09-30	2020-12-31
B32559C8222K000		2020-05-29	2020-09-30	2020-12-31
B32559C8222J489		2020-05-29	2020-09-30	2020-12-31
B32559C8222J389		2020-05-29	2020-09-30	2020-12-31
B32559C8222J289		2020-05-29	2020-09-30	2020-12-31
B32559C8222J189		2020-05-29	2020-09-30	2020-12-31
B32559C8222J001		2020-05-29	2020-09-30	2020-12-31
B32559C8222J000		2020-05-29	2020-09-30	2020-12-31
B32559C8152M489		2020-05-29	2020-09-30	2020-12-31
B32559C8152M389		2020-05-29	2020-09-30	2020-12-31
B32559C8152M289		2020-05-29	2020-09-30	2020-12-31
B32559C8152M189		2020-05-29	2020-09-30	2020-12-31
B32559C8152M001		2020-05-29	2020-09-30	2020-12-31
B32559C8152M000		2020-05-29	2020-09-30	2020-12-31
B32559C8152K489		2020-05-29	2020-09-30	2020-12-31
B32559C8152K389		2020-05-29	2020-09-30	2020-12-31
B32559C8152K289		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C8152K189		2020-05-29	2020-09-30	2020-12-31
B32559C8152K001		2020-05-29	2020-09-30	2020-12-31
B32559C8152K000		2020-05-29	2020-09-30	2020-12-31
B32559C8152J489		2020-05-29	2020-09-30	2020-12-31
B32559C8152J389		2020-05-29	2020-09-30	2020-12-31
B32559C8152J289		2020-05-29	2020-09-30	2020-12-31
B32559C8152J189		2020-05-29	2020-09-30	2020-12-31
B32559C8152J001		2020-05-29	2020-09-30	2020-12-31
B32559C8152J000		2020-05-29	2020-09-30	2020-12-31
B32559C8103M489		2020-05-29	2020-09-30	2020-12-31
B32559C8103M389		2020-05-29	2020-09-30	2020-12-31
B32559C8103M289		2020-05-29	2020-09-30	2020-12-31
B32559C8103M189		2020-05-29	2020-09-30	2020-12-31
B32559C8103M001		2020-05-29	2020-09-30	2020-12-31
B32559C8103M000		2020-05-29	2020-09-30	2020-12-31
B32559C8103K489		2020-05-29	2020-09-30	2020-12-31
B32559C8103K389		2020-05-29	2020-09-30	2020-12-31
B32559C8103K289		2020-05-29	2020-09-30	2020-12-31
B32559C8103K189		2020-05-29	2020-09-30	2020-12-31
B32559C8103K001		2020-05-29	2020-09-30	2020-12-31
B32559C8103K000		2020-05-29	2020-09-30	2020-12-31
B32559C8103J489		2020-05-29	2020-09-30	2020-12-31
B32559C8103J389		2020-05-29	2020-09-30	2020-12-31
B32559C8103J289		2020-05-29	2020-09-30	2020-12-31
B32559C8103J189		2020-05-29	2020-09-30	2020-12-31
B32559C8103J001		2020-05-29	2020-09-30	2020-12-31
B32559C8103J000		2020-05-29	2020-09-30	2020-12-31
B32559C8102M489		2017-06-09	2017-09-15	2017-12-15
B32559C8102M389		2017-06-09	2017-09-15	2017-12-15
B32559C8102M289		2017-06-09	2017-09-15	2017-12-15
B32559C8102M189		2017-06-09	2017-09-15	2017-12-15
B32559C8102M001		2017-06-09	2017-09-15	2017-12-15
B32559C8102M000		2017-06-09	2017-09-15	2017-12-15
B32559C8102K489		2017-06-09	2017-09-15	2017-12-15
B32559C8102K389		2017-06-09	2017-09-15	2017-12-15
B32559C8102K289		2017-06-09	2017-09-15	2017-12-15
B32559C8102K189		2017-06-09	2017-09-15	2017-12-15
B32559C8102K001		2017-06-09	2017-09-15	2017-12-15



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C8102K000		2017-06-09	2017-09-15	2017-12-15
B32559C8102J489		2017-06-09	2017-09-15	2017-12-15
B32559C8102J389		2017-06-09	2017-09-15	2017-12-15
B32559C8102J289		2017-06-09	2017-09-15	2017-12-15
B32559C8102J189		2017-06-09	2017-09-15	2017-12-15
B32559C8102J001		2017-06-09	2017-09-15	2017-12-15
B32559C8102J000		2017-06-09	2017-09-15	2017-12-15
B32559C6822M489		2020-05-29	2020-09-30	2020-12-31
B32559C6822M389		2020-05-29	2020-09-30	2020-12-31
B32559C6822M289		2020-05-29	2020-09-30	2020-12-31
B32559C6822M189		2020-05-29	2020-09-30	2020-12-31
B32559C6822M001		2020-05-29	2020-09-30	2020-12-31
B32559C6822M000		2020-05-29	2020-09-30	2020-12-31
B32559C6822K489		2020-05-29	2020-09-30	2020-12-31
B32559C6822K389		2020-05-29	2020-09-30	2020-12-31
B32559C6822K289		2020-05-29	2020-09-30	2020-12-31
B32559C6822K189		2020-05-29	2020-09-30	2020-12-31
B32559C6822K001		2020-05-29	2020-09-30	2020-12-31
B32559C6822K000		2020-05-29	2020-09-30	2020-12-31
B32559C6822J489		2020-05-29	2020-09-30	2020-12-31
B32559C6822J389		2020-05-29	2020-09-30	2020-12-31
B32559C6822J289		2020-05-29	2020-09-30	2020-12-31
B32559C6822J189		2020-05-29	2020-09-30	2020-12-31
B32559C6822J001		2020-05-29	2020-09-30	2020-12-31
B32559C6822J000		2020-05-29	2020-09-30	2020-12-31
B32559C6683M489		2020-05-29	2020-09-30	2020-12-31
B32559C6683M389		2020-05-29	2020-09-30	2020-12-31
B32559C6683M289		2020-05-29	2020-09-30	2020-12-31
B32559C6683M189		2020-05-29	2020-09-30	2020-12-31
B32559C6683M001		2020-05-29	2020-09-30	2020-12-31
B32559C6683M000		2020-05-29	2020-09-30	2020-12-31
B32559C6683K489		2020-05-29	2020-09-30	2020-12-31
B32559C6683K389		2020-05-29	2020-09-30	2020-12-31
B32559C6683K289		2020-05-29	2020-09-30	2020-12-31
B32559C6683K189		2020-05-29	2020-09-30	2020-12-31
B32559C6683K001		2020-05-29	2020-09-30	2020-12-31
B32559C6683K000		2020-05-29	2020-09-30	2020-12-31
B32559C6683J489		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C6683J389		2020-05-29	2020-09-30	2020-12-31
B32559C6683J289		2020-05-29	2020-09-30	2020-12-31
B32559C6683J189		2020-05-29	2020-09-30	2020-12-31
B32559C6683J001		2020-05-29	2020-09-30	2020-12-31
B32559C6683J000		2020-05-29	2020-09-30	2020-12-31
B32559C6682M489		2020-05-29	2020-09-30	2020-12-31
B32559C6682M389		2020-05-29	2020-09-30	2020-12-31
B32559C6682M289		2020-05-29	2020-09-30	2020-12-31
B32559C6682M189		2020-05-29	2020-09-30	2020-12-31
B32559C6682M001		2020-05-29	2020-09-30	2020-12-31
B32559C6682M000		2020-05-29	2020-09-30	2020-12-31
B32559C6682K489		2020-05-29	2020-09-30	2020-12-31
B32559C6682K389		2020-05-29	2020-09-30	2020-12-31
B32559C6682K289		2020-05-29	2020-09-30	2020-12-31
B32559C6682K189		2020-05-29	2020-09-30	2020-12-31
B32559C6682K001		2020-05-29	2020-09-30	2020-12-31
B32559C6682K000		2020-05-29	2020-09-30	2020-12-31
B32559C6682J489		2020-05-29	2020-09-30	2020-12-31
B32559C6682J389		2020-05-29	2020-09-30	2020-12-31
B32559C6682J289		2020-05-29	2020-09-30	2020-12-31
B32559C6682J189		2020-05-29	2020-09-30	2020-12-31
B32559C6682J001		2020-05-29	2020-09-30	2020-12-31
B32559C6682J000		2020-05-29	2020-09-30	2020-12-31
B32559C6563M489		2020-05-29	2020-09-30	2020-12-31
B32559C6563M389		2020-05-29	2020-09-30	2020-12-31
B32559C6563M289		2020-05-29	2020-09-30	2020-12-31
B32559C6563M189		2020-05-29	2020-09-30	2020-12-31
B32559C6563M001		2020-05-29	2020-09-30	2020-12-31
B32559C6563M000		2020-05-29	2020-09-30	2020-12-31
B32559C6563K489		2020-05-29	2020-09-30	2020-12-31
B32559C6563K389		2020-05-29	2020-09-30	2020-12-31
B32559C6563K289		2020-05-29	2020-09-30	2020-12-31
B32559C6563K189		2020-05-29	2020-09-30	2020-12-31
B32559C6563K001		2020-05-29	2020-09-30	2020-12-31
B32559C6563K000		2020-05-29	2020-09-30	2020-12-31
B32559C6563J489		2020-05-29	2020-09-30	2020-12-31
B32559C6563J389		2020-05-29	2020-09-30	2020-12-31
B32559C6563J289		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C6563J189		2020-05-29	2020-09-30	2020-12-31
B32559C6563J001		2020-05-29	2020-09-30	2020-12-31
B32559C6563J000		2020-05-29	2020-09-30	2020-12-31
B32559C6473M489		2020-05-29	2020-09-30	2020-12-31
B32559C6473M389		2020-05-29	2020-09-30	2020-12-31
B32559C6473M289		2020-05-29	2020-09-30	2020-12-31
B32559C6473M189		2020-05-29	2020-09-30	2020-12-31
B32559C6473M001		2020-05-29	2020-09-30	2020-12-31
B32559C6473M000		2020-05-29	2020-09-30	2020-12-31
B32559C6473K489		2020-05-29	2020-09-30	2020-12-31
B32559C6473K389		2020-05-29	2020-09-30	2020-12-31
B32559C6473K289		2020-05-29	2020-09-30	2020-12-31
B32559C6473K189		2020-05-29	2020-09-30	2020-12-31
B32559C6473K001		2020-05-29	2020-09-30	2020-12-31
B32559C6473K000		2020-05-29	2020-09-30	2020-12-31
B32559C6473J489		2020-05-29	2020-09-30	2020-12-31
B32559C6473J389		2020-05-29	2020-09-30	2020-12-31
B32559C6473J289		2020-05-29	2020-09-30	2020-12-31
B32559C6473J189		2020-05-29	2020-09-30	2020-12-31
B32559C6473J001		2020-05-29	2020-09-30	2020-12-31
B32559C6473J000		2020-05-29	2020-09-30	2020-12-31
B32559C6333M489		2020-05-29	2020-09-30	2020-12-31
B32559C6333M389		2020-05-29	2020-09-30	2020-12-31
B32559C6333M289		2020-05-29	2020-09-30	2020-12-31
B32559C6333M189		2020-05-29	2020-09-30	2020-12-31
B32559C6333M001		2020-05-29	2020-09-30	2020-12-31
B32559C6333M000		2020-05-29	2020-09-30	2020-12-31
B32559C6333K489		2020-05-29	2020-09-30	2020-12-31
B32559C6333K389		2020-05-29	2020-09-30	2020-12-31
B32559C6333K289		2020-05-29	2020-09-30	2020-12-31
B32559C6333K189		2020-05-29	2020-09-30	2020-12-31
B32559C6333K001		2020-05-29	2020-09-30	2020-12-31
B32559C6333K000		2020-05-29	2020-09-30	2020-12-31
B32559C6333J489		2020-05-29	2020-09-30	2020-12-31
B32559C6333J389		2020-05-29	2020-09-30	2020-12-31
B32559C6333J289		2020-05-29	2020-09-30	2020-12-31
B32559C6333J189		2020-05-29	2020-09-30	2020-12-31
B32559C6333J001		2020-05-29	2020-09-30	2020-12-31





Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C6333J000		2020-05-29	2020-09-30	2020-12-31
B32559C6273M489		2020-05-29	2020-09-30	2020-12-31
B32559C6273M389		2020-05-29	2020-09-30	2020-12-31
B32559C6273M289		2020-05-29	2020-09-30	2020-12-31
B32559C6273M189		2020-05-29	2020-09-30	2020-12-31
B32559C6273M001		2020-05-29	2020-09-30	2020-12-31
B32559C6273M000		2020-05-29	2020-09-30	2020-12-31
B32559C6273K489		2020-05-29	2020-09-30	2020-12-31
B32559C6273K389		2020-05-29	2020-09-30	2020-12-31
B32559C6273K289		2020-05-29	2020-09-30	2020-12-31
B32559C6273K189		2020-05-29	2020-09-30	2020-12-31
B32559C6273K001		2020-05-29	2020-09-30	2020-12-31
B32559C6273K000		2020-05-29	2020-09-30	2020-12-31
B32559C6273J489		2020-05-29	2020-09-30	2020-12-31
B32559C6273J389		2020-05-29	2020-09-30	2020-12-31
B32559C6273J289		2020-05-29	2020-09-30	2020-12-31
B32559C6273J189		2020-05-29	2020-09-30	2020-12-31
B32559C6273J001		2020-05-29	2020-09-30	2020-12-31
B32559C6273J000		2020-05-29	2020-09-30	2020-12-31
B32559C6223M489		2020-05-29	2020-09-30	2020-12-31
B32559C6223M389		2020-05-29	2020-09-30	2020-12-31
B32559C6223M289		2020-05-29	2020-09-30	2020-12-31
B32559C6223M189		2020-05-29	2020-09-30	2020-12-31
B32559C6223M001		2020-05-29	2020-09-30	2020-12-31
B32559C6223M000		2020-05-29	2020-09-30	2020-12-31
B32559C6223K489		2020-05-29	2020-09-30	2020-12-31
B32559C6223K389		2020-05-29	2020-09-30	2020-12-31
B32559C6223K289		2020-05-29	2020-09-30	2020-12-31
B32559C6223K189		2020-05-29	2020-09-30	2020-12-31
B32559C6223K001		2020-05-29	2020-09-30	2020-12-31
B32559C6223K000		2020-05-29	2020-09-30	2020-12-31
B32559C6223J489		2020-05-29	2020-09-30	2020-12-31
B32559C6223J389		2020-05-29	2020-09-30	2020-12-31
B32559C6223J289		2020-05-29	2020-09-30	2020-12-31
B32559C6223J189		2020-05-29	2020-09-30	2020-12-31
B32559C6223J001		2020-05-29	2020-09-30	2020-12-31
B32559C6223J000		2020-05-29	2020-09-30	2020-12-31
B32559C6153M489		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C6153M389		2020-05-29	2020-09-30	2020-12-31
B32559C6153M289		2020-05-29	2020-09-30	2020-12-31
B32559C6153M189		2020-05-29	2020-09-30	2020-12-31
B32559C6153M001		2020-05-29	2020-09-30	2020-12-31
B32559C6153M000		2020-05-29	2020-09-30	2020-12-31
B32559C6153K489		2020-05-29	2020-09-30	2020-12-31
B32559C6153K389		2020-05-29	2020-09-30	2020-12-31
B32559C6153K289		2020-05-29	2020-09-30	2020-12-31
B32559C6153K189		2020-05-29	2020-09-30	2020-12-31
B32559C6153K001		2020-05-29	2020-09-30	2020-12-31
B32559C6153K000		2020-05-29	2020-09-30	2020-12-31
B32559C6153J489		2020-05-29	2020-09-30	2020-12-31
B32559C6153J389		2020-05-29	2020-09-30	2020-12-31
B32559C6153J289		2020-05-29	2020-09-30	2020-12-31
B32559C6153J189		2020-05-29	2020-09-30	2020-12-31
B32559C6153J001		2020-05-29	2020-09-30	2020-12-31
B32559C6153J000		2020-05-29	2020-09-30	2020-12-31
B32559C6124M489		2020-05-29	2020-09-30	2020-12-31
B32559C6124M389		2020-05-29	2020-09-30	2020-12-31
B32559C6124M289		2020-05-29	2020-09-30	2020-12-31
B32559C6124M189		2020-05-29	2020-09-30	2020-12-31
B32559C6124M001		2020-05-29	2020-09-30	2020-12-31
B32559C6124M000		2020-05-29	2020-09-30	2020-12-31
B32559C6124K489		2020-05-29	2020-09-30	2020-12-31
B32559C6124K389		2020-05-29	2020-09-30	2020-12-31
B32559C6124K289		2020-05-29	2020-09-30	2020-12-31
B32559C6124K189		2020-05-29	2020-09-30	2020-12-31
B32559C6124K001		2020-05-29	2020-09-30	2020-12-31
B32559C6124K000		2020-05-29	2020-09-30	2020-12-31
B32559C6124J489		2020-05-29	2020-09-30	2020-12-31
B32559C6124J389		2020-05-29	2020-09-30	2020-12-31
B32559C6124J289		2020-05-29	2020-09-30	2020-12-31
B32559C6124J189		2020-05-29	2020-09-30	2020-12-31
B32559C6124J001		2020-05-29	2020-09-30	2020-12-31
B32559C6124J000		2020-05-29	2020-09-30	2020-12-31
B32559C6123M489		2020-05-29	2020-09-30	2020-12-31
B32559C6123M389		2020-05-29	2020-09-30	2020-12-31
B32559C6123M289		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C6123M189		2020-05-29	2020-09-30	2020-12-31
B32559C6123M001		2020-05-29	2020-09-30	2020-12-31
B32559C6123M000		2020-05-29	2020-09-30	2020-12-31
B32559C6123K489		2020-05-29	2020-09-30	2020-12-31
B32559C6123K389		2020-05-29	2020-09-30	2020-12-31
B32559C6123K289		2020-05-29	2020-09-30	2020-12-31
B32559C6123K189		2020-05-29	2020-09-30	2020-12-31
B32559C6123K001		2020-05-29	2020-09-30	2020-12-31
B32559C6123K000		2020-05-29	2020-09-30	2020-12-31
B32559C6123J489		2020-05-29	2020-09-30	2020-12-31
B32559C6123J389		2020-05-29	2020-09-30	2020-12-31
B32559C6123J289		2020-05-29	2020-09-30	2020-12-31
B32559C6123J189		2020-05-29	2020-09-30	2020-12-31
B32559C6123J001		2020-05-29	2020-09-30	2020-12-31
B32559C6123J000		2020-05-29	2020-09-30	2020-12-31
B32559C6104M489		2020-05-29	2020-09-30	2020-12-31
B32559C6104M389		2020-05-29	2020-09-30	2020-12-31
B32559C6104M289		2020-05-29	2020-09-30	2020-12-31
B32559C6104M189		2020-05-29	2020-09-30	2020-12-31
B32559C6104M001		2020-05-29	2020-09-30	2020-12-31
B32559C6104M000		2020-05-29	2020-09-30	2020-12-31
B32559C6104K489		2020-05-29	2020-09-30	2020-12-31
B32559C6104K389		2020-05-29	2020-09-30	2020-12-31
B32559C6104K289		2020-05-29	2020-09-30	2020-12-31
B32559C6104K189		2020-05-29	2020-09-30	2020-12-31
B32559C6104K001		2020-05-29	2020-09-30	2020-12-31
B32559C6104K000		2020-05-29	2020-09-30	2020-12-31
B32559C6104J489		2020-05-29	2020-09-30	2020-12-31
B32559C6104J389		2020-05-29	2020-09-30	2020-12-31
B32559C6104J289		2020-05-29	2020-09-30	2020-12-31
B32559C6104J189		2020-05-29	2020-09-30	2020-12-31
B32559C6104J001		2020-05-29	2020-09-30	2020-12-31
B32559C6104J000		2020-05-29	2020-09-30	2020-12-31
B32559C6103M489		2020-05-29	2020-09-30	2020-12-31
B32559C6103M389		2020-05-29	2020-09-30	2020-12-31
B32559C6103M289		2020-05-29	2020-09-30	2020-12-31
B32559C6103M189		2020-05-29	2020-09-30	2020-12-31
B32559C6103M001		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C6103M000		2020-05-29	2020-09-30	2020-12-31
B32559C6103K489		2020-05-29	2020-09-30	2020-12-31
B32559C6103K389		2020-05-29	2020-09-30	2020-12-31
B32559C6103K289		2020-05-29	2020-09-30	2020-12-31
B32559C6103K189		2020-05-29	2020-09-30	2020-12-31
B32559C6103K001		2020-05-29	2020-09-30	2020-12-31
B32559C6103K000		2020-05-29	2020-09-30	2020-12-31
B32559C6103J489		2020-05-29	2020-09-30	2020-12-31
B32559C6103J389		2020-05-29	2020-09-30	2020-12-31
B32559C6103J289		2020-05-29	2020-09-30	2020-12-31
B32559C6103J189		2020-05-29	2020-09-30	2020-12-31
B32559C6103J001		2020-05-29	2020-09-30	2020-12-31
B32559C6103J000		2020-05-29	2020-09-30	2020-12-31
B32559C3683M489		2020-05-29	2020-09-30	2020-12-31
B32559C3683M389		2020-05-29	2020-09-30	2020-12-31
B32559C3683M289		2020-05-29	2020-09-30	2020-12-31
B32559C3683M189		2020-05-29	2020-09-30	2020-12-31
B32559C3683M001		2020-05-29	2020-09-30	2020-12-31
B32559C3683M000		2020-05-29	2020-09-30	2020-12-31
B32559C3683K489		2020-05-29	2020-09-30	2020-12-31
B32559C3683K389		2020-05-29	2020-09-30	2020-12-31
B32559C3683K289		2020-05-29	2020-09-30	2020-12-31
B32559C3683K189		2020-05-29	2020-09-30	2020-12-31
B32559C3683K001		2020-05-29	2020-09-30	2020-12-31
B32559C3683K000		2020-05-29	2020-09-30	2020-12-31
B32559C3683J489		2020-05-29	2020-09-30	2020-12-31
B32559C3683J389		2020-05-29	2020-09-30	2020-12-31
B32559C3683J289		2020-05-29	2020-09-30	2020-12-31
B32559C3683J189		2020-05-29	2020-09-30	2020-12-31
B32559C3683J001		2020-05-29	2020-09-30	2020-12-31
B32559C3683J000		2020-05-29	2020-09-30	2020-12-31
B32559C3563M489		2020-05-29	2020-09-30	2020-12-31
B32559C3563M389		2020-05-29	2020-09-30	2020-12-31
B32559C3563M289		2020-05-29	2020-09-30	2020-12-31
B32559C3563M189		2020-05-29	2020-09-30	2020-12-31
B32559C3563M001		2020-05-29	2020-09-30	2020-12-31
B32559C3563M000		2020-05-29	2020-09-30	2020-12-31
B32559C3563K489		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C3563K389		2020-05-29	2020-09-30	2020-12-31
B32559C3563K289		2020-05-29	2020-09-30	2020-12-31
B32559C3563K189		2020-05-29	2020-09-30	2020-12-31
B32559C3563K001		2020-05-29	2020-09-30	2020-12-31
B32559C3563K000		2020-05-29	2020-09-30	2020-12-31
B32559C3563J489		2020-05-29	2020-09-30	2020-12-31
B32559C3563J389		2020-05-29	2020-09-30	2020-12-31
B32559C3563J289		2020-05-29	2020-09-30	2020-12-31
B32559C3563J189		2020-05-29	2020-09-30	2020-12-31
B32559C3563J001		2020-05-29	2020-09-30	2020-12-31
B32559C3563J000		2020-05-29	2020-09-30	2020-12-31
B32559C3473M489		2020-05-29	2020-09-30	2020-12-31
B32559C3473M389		2020-05-29	2020-09-30	2020-12-31
B32559C3473M289		2020-05-29	2020-09-30	2020-12-31
B32559C3473M189		2020-05-29	2020-09-30	2020-12-31
B32559C3473M001		2020-05-29	2020-09-30	2020-12-31
B32559C3473M000		2020-05-29	2020-09-30	2020-12-31
B32559C3473K489		2020-05-29	2020-09-30	2020-12-31
B32559C3473K389		2020-05-29	2020-09-30	2020-12-31
B32559C3473K289		2020-05-29	2020-09-30	2020-12-31
B32559C3473K189		2020-05-29	2020-09-30	2020-12-31
B32559C3473K001		2020-05-29	2020-09-30	2020-12-31
B32559C3473K000		2020-05-29	2020-09-30	2020-12-31
B32559C3473J489		2020-05-29	2020-09-30	2020-12-31
B32559C3473J389		2020-05-29	2020-09-30	2020-12-31
B32559C3473J289		2020-05-29	2020-09-30	2020-12-31
B32559C3473J189		2020-05-29	2020-09-30	2020-12-31
B32559C3473J001		2020-05-29	2020-09-30	2020-12-31
B32559C3473J000		2020-05-29	2020-09-30	2020-12-31
B32559C3333M489		2020-05-29	2020-09-30	2020-12-31
B32559C3333M389		2020-05-29	2020-09-30	2020-12-31
B32559C3333M289		2020-05-29	2020-09-30	2020-12-31
B32559C3333M189		2020-05-29	2020-09-30	2020-12-31
B32559C3333M001		2020-05-29	2020-09-30	2020-12-31
B32559C3333M000		2020-05-29	2020-09-30	2020-12-31
B32559C3333K489		2020-05-29	2020-09-30	2020-12-31
B32559C3333K389		2020-05-29	2020-09-30	2020-12-31
B32559C3333K289		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C3333K189		2020-05-29	2020-09-30	2020-12-31
B32559C3333K001		2020-05-29	2020-09-30	2020-12-31
B32559C3333K000		2020-05-29	2020-09-30	2020-12-31
B32559C3333J489		2020-05-29	2020-09-30	2020-12-31
B32559C3333J389		2020-05-29	2020-09-30	2020-12-31
B32559C3333J289		2020-05-29	2020-09-30	2020-12-31
B32559C3333J189		2020-05-29	2020-09-30	2020-12-31
B32559C3333J001		2020-05-29	2020-09-30	2020-12-31
B32559C3333J000		2020-05-29	2020-09-30	2020-12-31
B32559C3273M489		2020-05-29	2020-09-30	2020-12-31
B32559C3273M389		2020-05-29	2020-09-30	2020-12-31
B32559C3273M289		2020-05-29	2020-09-30	2020-12-31
B32559C3273M189		2020-05-29	2020-09-30	2020-12-31
B32559C3273M001		2020-05-29	2020-09-30	2020-12-31
B32559C3273M000		2020-05-29	2020-09-30	2020-12-31
B32559C3273K489		2020-05-29	2020-09-30	2020-12-31
B32559C3273K389		2020-05-29	2020-09-30	2020-12-31
B32559C3273K289		2020-05-29	2020-09-30	2020-12-31
B32559C3273K189		2020-05-29	2020-09-30	2020-12-31
B32559C3273K001		2020-05-29	2020-09-30	2020-12-31
B32559C3273K000		2020-05-29	2020-09-30	2020-12-31
B32559C3273J489		2020-05-29	2020-09-30	2020-12-31
B32559C3273J389		2020-05-29	2020-09-30	2020-12-31
B32559C3273J289		2020-05-29	2020-09-30	2020-12-31
B32559C3273J189		2020-05-29	2020-09-30	2020-12-31
B32559C3273J001		2020-05-29	2020-09-30	2020-12-31
B32559C3273J000		2020-05-29	2020-09-30	2020-12-31
B32559C3223M489		2020-05-29	2020-09-30	2020-12-31
B32559C3223M389		2020-05-29	2020-09-30	2020-12-31
B32559C3223M289		2020-05-29	2020-09-30	2020-12-31
B32559C3223M189		2020-05-29	2020-09-30	2020-12-31
B32559C3223M001		2020-05-29	2020-09-30	2020-12-31
B32559C3223M000		2020-05-29	2020-09-30	2020-12-31
B32559C3223K489		2020-05-29	2020-09-30	2020-12-31
B32559C3223K389		2020-05-29	2020-09-30	2020-12-31
B32559C3223K289		2020-05-29	2020-09-30	2020-12-31
B32559C3223K189		2020-05-29	2020-09-30	2020-12-31
B32559C3223K001		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C3223K000		2020-05-29	2020-09-30	2020-12-31
B32559C3223J489		2020-05-29	2020-09-30	2020-12-31
B32559C3223J389		2020-05-29	2020-09-30	2020-12-31
B32559C3223J289		2020-05-29	2020-09-30	2020-12-31
B32559C3223J189		2020-05-29	2020-09-30	2020-12-31
B32559C3223J001		2020-05-29	2020-09-30	2020-12-31
B32559C3223J000		2020-05-29	2020-09-30	2020-12-31
B32559C3154M489		2020-05-29	2020-09-30	2020-12-31
B32559C3154M389		2020-05-29	2020-09-30	2020-12-31
B32559C3154M289		2020-05-29	2020-09-30	2020-12-31
B32559C3154M189		2020-05-29	2020-09-30	2020-12-31
B32559C3154M001		2020-05-29	2020-09-30	2020-12-31
B32559C3154M000		2020-05-29	2020-09-30	2020-12-31
B32559C3154K489		2020-05-29	2020-09-30	2020-12-31
B32559C3154K389		2020-05-29	2020-09-30	2020-12-31
B32559C3154K289		2020-05-29	2020-09-30	2020-12-31
B32559C3154K189		2020-05-29	2020-09-30	2020-12-31
B32559C3154K001		2020-05-29	2020-09-30	2020-12-31
B32559C3154K000		2020-05-29	2020-09-30	2020-12-31
B32559C3154J489		2020-05-29	2020-09-30	2020-12-31
B32559C3154J389		2020-05-29	2020-09-30	2020-12-31
B32559C3154J289		2020-05-29	2020-09-30	2020-12-31
B32559C3154J189		2020-05-29	2020-09-30	2020-12-31
B32559C3154J001		2020-05-29	2020-09-30	2020-12-31
B32559C3154J000		2020-05-29	2020-09-30	2020-12-31
B32559C3124M489		2020-05-29	2020-09-30	2020-12-31
B32559C3124M389		2020-05-29	2020-09-30	2020-12-31
B32559C3124M289		2020-05-29	2020-09-30	2020-12-31
B32559C3124M189		2020-05-29	2020-09-30	2020-12-31
B32559C3124M001		2020-05-29	2020-09-30	2020-12-31
B32559C3124M000		2020-05-29	2020-09-30	2020-12-31
B32559C3124K489		2020-05-29	2020-09-30	2020-12-31
B32559C3124K389		2020-05-29	2020-09-30	2020-12-31
B32559C3124K289		2020-05-29	2020-09-30	2020-12-31
B32559C3124K189		2020-05-29	2020-09-30	2020-12-31
B32559C3124K001		2020-05-29	2020-09-30	2020-12-31
B32559C3124K000		2020-05-29	2020-09-30	2020-12-31
B32559C3124J489		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C3124J389		2020-05-29	2020-09-30	2020-12-31
B32559C3124J289		2020-05-29	2020-09-30	2020-12-31
B32559C3124J189		2020-05-29	2020-09-30	2020-12-31
B32559C3124J001		2020-05-29	2020-09-30	2020-12-31
B32559C3124J000		2020-05-29	2020-09-30	2020-12-31
B32559C3104M489		2020-05-29	2020-09-30	2020-12-31
B32559C3104M389		2020-05-29	2020-09-30	2020-12-31
B32559C3104M289		2020-05-29	2020-09-30	2020-12-31
B32559C3104M189		2020-05-29	2020-09-30	2020-12-31
B32559C3104M001		2020-05-29	2020-09-30	2020-12-31
B32559C3104M000		2020-05-29	2020-09-30	2020-12-31
B32559C3104K489		2020-05-29	2020-09-30	2020-12-31
B32559C3104K389		2020-05-29	2020-09-30	2020-12-31
B32559C3104K289		2020-05-29	2020-09-30	2020-12-31
B32559C3104K189		2020-05-29	2020-09-30	2020-12-31
B32559C3104K001		2020-05-29	2020-09-30	2020-12-31
B32559C3104K000		2020-05-29	2020-09-30	2020-12-31
B32559C3104J489		2020-05-29	2020-09-30	2020-12-31
B32559C3104J389		2020-05-29	2020-09-30	2020-12-31
B32559C3104J289		2020-05-29	2020-09-30	2020-12-31
B32559C3104J189		2020-05-29	2020-09-30	2020-12-31
B32559C3104J001		2020-05-29	2020-09-30	2020-12-31
B32559C3104J000		2020-05-29	2020-09-30	2020-12-31
B32559C1683M489		2020-05-29	2020-09-30	2020-12-31
B32559C1683M389		2020-05-29	2020-09-30	2020-12-31
B32559C1683M289		2020-05-29	2020-09-30	2020-12-31
B32559C1683M189		2020-05-29	2020-09-30	2020-12-31
B32559C1683M001		2020-05-29	2020-09-30	2020-12-31
B32559C1683M000		2020-05-29	2020-09-30	2020-12-31
B32559C1683K489		2020-05-29	2020-09-30	2020-12-31
B32559C1683K389		2020-05-29	2020-09-30	2020-12-31
B32559C1683K289		2020-05-29	2020-09-30	2020-12-31
B32559C1683K189		2020-05-29	2020-09-30	2020-12-31
B32559C1683K001		2020-05-29	2020-09-30	2020-12-31
B32559C1683K000		2020-05-29	2020-09-30	2020-12-31
B32559C1683J489		2020-05-29	2020-09-30	2020-12-31
B32559C1683J389		2020-05-29	2020-09-30	2020-12-31
B32559C1683J289		2020-05-29	2020-09-30	2020-12-31





Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C1683J189		2020-05-29	2020-09-30	2020-12-31
B32559C1683J001		2020-05-29	2020-09-30	2020-12-31
B32559C1683J000		2020-05-29	2020-09-30	2020-12-31
B32559C1563M489		2020-05-29	2020-09-30	2020-12-31
B32559C1563M389		2020-05-29	2020-09-30	2020-12-31
B32559C1563M289		2020-05-29	2020-09-30	2020-12-31
B32559C1563M189		2020-05-29	2020-09-30	2020-12-31
B32559C1563M001		2020-05-29	2020-09-30	2020-12-31
B32559C1563M000		2020-05-29	2020-09-30	2020-12-31
B32559C1563K489		2020-05-29	2020-09-30	2020-12-31
B32559C1563K389		2020-05-29	2020-09-30	2020-12-31
B32559C1563K289		2020-05-29	2020-09-30	2020-12-31
B32559C1563K189		2020-05-29	2020-09-30	2020-12-31
B32559C1563K001		2020-05-29	2020-09-30	2020-12-31
B32559C1563K000		2020-05-29	2020-09-30	2020-12-31
B32559C1563J489		2020-05-29	2020-09-30	2020-12-31
B32559C1563J389		2020-05-29	2020-09-30	2020-12-31
B32559C1563J289		2020-05-29	2020-09-30	2020-12-31
B32559C1563J189		2020-05-29	2020-09-30	2020-12-31
B32559C1563J001		2020-05-29	2020-09-30	2020-12-31
B32559C1563J000		2020-05-29	2020-09-30	2020-12-31
B32559C1474M489		2020-05-29	2020-09-30	2020-12-31
B32559C1474M389		2020-05-29	2020-09-30	2020-12-31
B32559C1474M289		2020-05-29	2020-09-30	2020-12-31
B32559C1474M189		2020-05-29	2020-09-30	2020-12-31
B32559C1474M001		2020-05-29	2020-09-30	2020-12-31
B32559C1474M000		2020-05-29	2020-09-30	2020-12-31
B32559C1474K489		2020-05-29	2020-09-30	2020-12-31
B32559C1474K389		2020-05-29	2020-09-30	2020-12-31
B32559C1474K289		2020-05-29	2020-09-30	2020-12-31
B32559C1474K189		2020-05-29	2020-09-30	2020-12-31
B32559C1474K001		2020-05-29	2020-09-30	2020-12-31
B32559C1474K000		2020-05-29	2020-09-30	2020-12-31
B32559C1474J489		2020-05-29	2020-09-30	2020-12-31
B32559C1474J389		2020-05-29	2020-09-30	2020-12-31
B32559C1474J289		2020-05-29	2020-09-30	2020-12-31
B32559C1474J189		2020-05-29	2020-09-30	2020-12-31
B32559C1474J001		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C1474J000		2020-05-29	2020-09-30	2020-12-31
B32559C1473M489		2020-05-29	2020-09-30	2020-12-31
B32559C1473M389		2020-05-29	2020-09-30	2020-12-31
B32559C1473M289		2020-05-29	2020-09-30	2020-12-31
B32559C1473M189		2020-05-29	2020-09-30	2020-12-31
B32559C1473M001		2020-05-29	2020-09-30	2020-12-31
B32559C1473M000		2020-05-29	2020-09-30	2020-12-31
B32559C1473K489		2020-05-29	2020-09-30	2020-12-31
B32559C1473K389		2020-05-29	2020-09-30	2020-12-31
B32559C1473K289		2020-05-29	2020-09-30	2020-12-31
B32559C1473K189		2020-05-29	2020-09-30	2020-12-31
B32559C1473K001		2020-05-29	2020-09-30	2020-12-31
B32559C1473K000		2020-05-29	2020-09-30	2020-12-31
B32559C1473J489		2020-05-29	2020-09-30	2020-12-31
B32559C1473J389		2020-05-29	2020-09-30	2020-12-31
B32559C1473J289		2020-05-29	2020-09-30	2020-12-31
B32559C1473J189		2020-05-29	2020-09-30	2020-12-31
B32559C1473J001		2020-05-29	2020-09-30	2020-12-31
B32559C1473J000		2020-05-29	2020-09-30	2020-12-31
B32559C1334M489		2020-05-29	2020-09-30	2020-12-31
B32559C1334M389		2020-05-29	2020-09-30	2020-12-31
B32559C1334M289		2020-05-29	2020-09-30	2020-12-31
B32559C1334M189		2020-05-29	2020-09-30	2020-12-31
B32559C1334M001		2020-05-29	2020-09-30	2020-12-31
B32559C1334M000		2020-05-29	2020-09-30	2020-12-31
B32559C1334K489		2020-05-29	2020-09-30	2020-12-31
B32559C1334K389		2020-05-29	2020-09-30	2020-12-31
B32559C1334K289		2020-05-29	2020-09-30	2020-12-31
B32559C1334K189		2020-05-29	2020-09-30	2020-12-31
B32559C1334K001		2020-05-29	2020-09-30	2020-12-31
B32559C1334K000		2020-05-29	2020-09-30	2020-12-31
B32559C1334J489		2020-05-29	2020-09-30	2020-12-31
B32559C1334J389		2020-05-29	2020-09-30	2020-12-31
B32559C1334J289		2020-05-29	2020-09-30	2020-12-31
B32559C1334J189		2020-05-29	2020-09-30	2020-12-31
B32559C1334J001		2020-05-29	2020-09-30	2020-12-31
B32559C1334J000		2020-05-29	2020-09-30	2020-12-31
B32559C1333M489		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C1333M389		2020-05-29	2020-09-30	2020-12-31
B32559C1333M289		2020-05-29	2020-09-30	2020-12-31
B32559C1333M189		2020-05-29	2020-09-30	2020-12-31
B32559C1333M001		2020-05-29	2020-09-30	2020-12-31
B32559C1333M000		2020-05-29	2020-09-30	2020-12-31
B32559C1333K489		2020-05-29	2020-09-30	2020-12-31
B32559C1333K389		2020-05-29	2020-09-30	2020-12-31
B32559C1333K289		2020-05-29	2020-09-30	2020-12-31
B32559C1333K189		2020-05-29	2020-09-30	2020-12-31
B32559C1333K001		2020-05-29	2020-09-30	2020-12-31
B32559C1333K000		2020-05-29	2020-09-30	2020-12-31
B32559C1333J489		2020-05-29	2020-09-30	2020-12-31
B32559C1333J389		2020-05-29	2020-09-30	2020-12-31
B32559C1333J289		2020-05-29	2020-09-30	2020-12-31
B32559C1333J189		2020-05-29	2020-09-30	2020-12-31
B32559C1333J001		2020-05-29	2020-09-30	2020-12-31
B32559C1333J000		2020-05-29	2020-09-30	2020-12-31
B32559C1224M489		2020-05-29	2020-09-30	2020-12-31
B32559C1224M389		2020-05-29	2020-09-30	2020-12-31
B32559C1224M289		2020-05-29	2020-09-30	2020-12-31
B32559C1224M189		2020-05-29	2020-09-30	2020-12-31
B32559C1224M001		2020-05-29	2020-09-30	2020-12-31
B32559C1224M000		2020-05-29	2020-09-30	2020-12-31
B32559C1224K489		2020-05-29	2020-09-30	2020-12-31
B32559C1224K389		2020-05-29	2020-09-30	2020-12-31
B32559C1224K289		2020-05-29	2020-09-30	2020-12-31
B32559C1224K189		2020-05-29	2020-09-30	2020-12-31
B32559C1224K001		2020-05-29	2020-09-30	2020-12-31
B32559C1224K000		2020-05-29	2020-09-30	2020-12-31
B32559C1224J489		2020-05-29	2020-09-30	2020-12-31
B32559C1224J389		2020-05-29	2020-09-30	2020-12-31
B32559C1224J289		2020-05-29	2020-09-30	2020-12-31
B32559C1224J189		2020-05-29	2020-09-30	2020-12-31
B32559C1224J001		2020-05-29	2020-09-30	2020-12-31
B32559C1224J000		2020-05-29	2020-09-30	2020-12-31
B32559C1154M489		2020-05-29	2020-09-30	2020-12-31
B32559C1154M389		2020-05-29	2020-09-30	2020-12-31
B32559C1154M289		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C1154M189		2020-05-29	2020-09-30	2020-12-31
B32559C1154M001		2020-05-29	2020-09-30	2020-12-31
B32559C1154M000		2020-05-29	2020-09-30	2020-12-31
B32559C1154K489		2020-05-29	2020-09-30	2020-12-31
B32559C1154K389		2020-05-29	2020-09-30	2020-12-31
B32559C1154K289		2020-05-29	2020-09-30	2020-12-31
B32559C1154K189		2020-05-29	2020-09-30	2020-12-31
B32559C1154K001		2020-05-29	2020-09-30	2020-12-31
B32559C1154K000		2020-05-29	2020-09-30	2020-12-31
B32559C1154J489		2020-05-29	2020-09-30	2020-12-31
B32559C1154J389		2020-05-29	2020-09-30	2020-12-31
B32559C1154J289		2020-05-29	2020-09-30	2020-12-31
B32559C1154J189		2020-05-29	2020-09-30	2020-12-31
B32559C1154J001		2020-05-29	2020-09-30	2020-12-31
B32559C1154J000		2020-05-29	2020-09-30	2020-12-31
B32559C1124M489		2020-05-29	2020-09-30	2020-12-31
B32559C1124M389		2020-05-29	2020-09-30	2020-12-31
B32559C1124M289		2020-05-29	2020-09-30	2020-12-31
B32559C1124M189		2020-05-29	2020-09-30	2020-12-31
B32559C1124M001		2020-05-29	2020-09-30	2020-12-31
B32559C1124M000		2020-05-29	2020-09-30	2020-12-31
B32559C1124K489		2020-05-29	2020-09-30	2020-12-31
B32559C1124K389		2020-05-29	2020-09-30	2020-12-31
B32559C1124K289		2020-05-29	2020-09-30	2020-12-31
B32559C1124K189		2020-05-29	2020-09-30	2020-12-31
B32559C1124K001		2020-05-29	2020-09-30	2020-12-31
B32559C1124K000		2020-05-29	2020-09-30	2020-12-31
B32559C1124J489		2020-05-29	2020-09-30	2020-12-31
B32559C1124J389		2020-05-29	2020-09-30	2020-12-31
B32559C1124J289		2020-05-29	2020-09-30	2020-12-31
B32559C1124J189		2020-05-29	2020-09-30	2020-12-31
B32559C1124J001		2020-05-29	2020-09-30	2020-12-31
B32559C1124J000		2020-05-29	2020-09-30	2020-12-31
B32559C1104M489		2020-05-29	2020-09-30	2020-12-31
B32559C1104M389		2020-05-29	2020-09-30	2020-12-31
B32559C1104M289		2020-05-29	2020-09-30	2020-12-31
B32559C1104M189		2020-05-29	2020-09-30	2020-12-31
B32559C1104M001		2020-05-29	2020-09-30	2020-12-31



Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C1104M000		2020-05-29	2020-09-30	2020-12-31
B32559C1104K489		2020-05-29	2020-09-30	2020-12-31
B32559C1104K389		2020-05-29	2020-09-30	2020-12-31
B32559C1104K289		2020-05-29	2020-09-30	2020-12-31
B32559C1104K189		2020-05-29	2020-09-30	2020-12-31
B32559C1104K001		2020-05-29	2020-09-30	2020-12-31
B32559C1104K000		2020-05-29	2020-09-30	2020-12-31
B32559C1104J489		2020-05-29	2020-09-30	2020-12-31
B32559C1104J389		2020-05-29	2020-09-30	2020-12-31
B32559C1104J289		2020-05-29	2020-09-30	2020-12-31
B32559C1104J189		2020-05-29	2020-09-30	2020-12-31
B32559C1104J001		2020-05-29	2020-09-30	2020-12-31
B32559C1104J000		2020-05-29	2020-09-30	2020-12-31
B32559C0684M489		2020-05-29	2020-09-30	2020-12-31
B32559C0684M389		2020-05-29	2020-09-30	2020-12-31
B32559C0684M289		2020-05-29	2020-09-30	2020-12-31
B32559C0684M189		2020-05-29	2020-09-30	2020-12-31
B32559C0684M001		2020-05-29	2020-09-30	2020-12-31
B32559C0684M000		2020-05-29	2020-09-30	2020-12-31
B32559C0684K489		2020-05-29	2020-09-30	2020-12-31
B32559C0684K389		2020-05-29	2020-09-30	2020-12-31
B32559C0684K289		2020-05-29	2020-09-30	2020-12-31
B32559C0684K189		2020-05-29	2020-09-30	2020-12-31
B32559C0684K001		2020-05-29	2020-09-30	2020-12-31
B32559C0684K000		2020-05-29	2020-09-30	2020-12-31
B32559C0684J489		2020-05-29	2020-09-30	2020-12-31
B32559C0684J389		2020-05-29	2020-09-30	2020-12-31
B32559C0684J289		2020-05-29	2020-09-30	2020-12-31
B32559C0684J189		2020-05-29	2020-09-30	2020-12-31
B32559C0684J001		2020-05-29	2020-09-30	2020-12-31
B32559C0684J000		2020-05-29	2020-09-30	2020-12-31
B32559C0474M489		2020-05-29	2020-09-30	2020-12-31
B32559C0474M389		2020-05-29	2020-09-30	2020-12-31
B32559C0474M289		2020-05-29	2020-09-30	2020-12-31
B32559C0474M189		2020-05-29	2020-09-30	2020-12-31
B32559C0474M001		2020-05-29	2020-09-30	2020-12-31
B32559C0474M000		2020-05-29	2020-09-30	2020-12-31
B32559C0474K489		2020-05-29	2020-09-30	2020-12-31

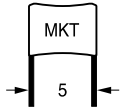


Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C0474K389		2020-05-29	2020-09-30	2020-12-31
B32559C0474K289		2020-05-29	2020-09-30	2020-12-31
B32559C0474K189		2020-05-29	2020-09-30	2020-12-31
B32559C0474K001		2020-05-29	2020-09-30	2020-12-31
B32559C0474K000		2020-05-29	2020-09-30	2020-12-31
B32559C0474J489		2020-05-29	2020-09-30	2020-12-31
B32559C0474J389		2020-05-29	2020-09-30	2020-12-31
B32559C0474J289		2020-05-29	2020-09-30	2020-12-31
B32559C0474J189		2020-05-29	2020-09-30	2020-12-31
B32559C0474J001		2020-05-29	2020-09-30	2020-12-31
B32559C0474J000		2020-05-29	2020-09-30	2020-12-31
B32559C0334M489		2020-05-29	2020-09-30	2020-12-31
B32559C0334M389		2020-05-29	2020-09-30	2020-12-31
B32559C0334M289		2020-05-29	2020-09-30	2020-12-31
B32559C0334M189		2020-05-29	2020-09-30	2020-12-31
B32559C0334M001		2020-05-29	2020-09-30	2020-12-31
B32559C0334M000		2020-05-29	2020-09-30	2020-12-31
B32559C0334K489		2020-05-29	2020-09-30	2020-12-31
B32559C0334K389		2020-05-29	2020-09-30	2020-12-31
B32559C0334K289		2020-05-29	2020-09-30	2020-12-31
B32559C0334K189		2020-05-29	2020-09-30	2020-12-31
B32559C0334K001		2020-05-29	2020-09-30	2020-12-31
B32559C0334K000		2020-05-29	2020-09-30	2020-12-31
B32559C0334J489		2020-05-29	2020-09-30	2020-12-31
B32559C0334J389		2020-05-29	2020-09-30	2020-12-31
B32559C0334J289		2020-05-29	2020-09-30	2020-12-31
B32559C0334J189		2020-05-29	2020-09-30	2020-12-31
B32559C0334J001		2020-05-29	2020-09-30	2020-12-31
B32559C0334J000		2020-05-29	2020-09-30	2020-12-31
B32559C0224M489		2020-05-29	2020-09-30	2020-12-31
B32559C0224M389		2020-05-29	2020-09-30	2020-12-31
B32559C0224M289		2020-05-29	2020-09-30	2020-12-31
B32559C0224M189		2020-05-29	2020-09-30	2020-12-31
B32559C0224M001		2020-05-29	2020-09-30	2020-12-31
B32559C0224M000		2020-05-29	2020-09-30	2020-12-31
B32559C0224K489		2020-05-29	2020-09-30	2020-12-31
B32559C0224K389		2020-05-29	2020-09-30	2020-12-31
B32559C0224K289		2020-05-29	2020-09-30	2020-12-31



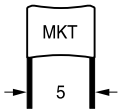
Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B32559C0224K189		2020-05-29	2020-09-30	2020-12-31
B32559C0224K001		2020-05-29	2020-09-30	2020-12-31
B32559C0224K000		2020-05-29	2020-09-30	2020-12-31
B32559C0224J489		2020-05-29	2020-09-30	2020-12-31
B32559C0224J389		2020-05-29	2020-09-30	2020-12-31
B32559C0224J289		2020-05-29	2020-09-30	2020-12-31
B32559C0224J189		2020-05-29	2020-09-30	2020-12-31
B32559C0224J001		2020-05-29	2020-09-30	2020-12-31
B32559C0224J000		2020-05-29	2020-09-30	2020-12-31
B32559C0105M489		2020-05-29	2020-09-30	2020-12-31
B32559C0105M389		2020-05-29	2020-09-30	2020-12-31
B32559C0105M289		2020-05-29	2020-09-30	2020-12-31
B32559C0105M189		2020-05-29	2020-09-30	2020-12-31
B32559C0105M001		2020-05-29	2020-09-30	2020-12-31
B32559C0105M000		2020-05-29	2020-09-30	2020-12-31
B32559C0105K489		2020-05-29	2020-09-30	2020-12-31
B32559C0105K389		2020-05-29	2020-09-30	2020-12-31
B32559C0105K289		2020-05-29	2020-09-30	2020-12-31
B32559C0105K189		2020-05-29	2020-09-30	2020-12-31
B32559C0105K001		2020-05-29	2020-09-30	2020-12-31
B32559C0105K000		2020-05-29	2020-09-30	2020-12-31
B32559C0105J489		2020-05-29	2020-09-30	2020-12-31
B32559C0105J389		2020-05-29	2020-09-30	2020-12-31
B32559C0105J289		2020-05-29	2020-09-30	2020-12-31
B32559C0105J189		2020-05-29	2020-09-30	2020-12-31
B32559C0105J001		2020-05-29	2020-09-30	2020-12-31
B32559C0105J000		2020-05-29	2020-09-30	2020-12-31

Please contact your nearest TDK sales office if you need support in selecting a suitable substitute. The addresses of our worldwide sales network are presented at [www.tdk-electronics.tdk.com/sales](http://www.tdk-electronics.tdk.com/sales).


**Overview of available types**

Lead spacing	5.0 mm				
Type	B32559C				
Lead configuration	straight / crimped				
Page	4				
$V_R$ (V DC)	63	100	250	400	630
$V_{RMS}$ (V AC)	40	63	160	200	400
$C_R$ ( $\mu$ F)					
0.0010					
0.0015					
0.0022					
0.0027					
0.0033					
0.0047					
0.0068					
0.0082					
0.010					
0.012					
0.015					
0.022					
0.027					
0.033					
0.047					
0.056					
0.068					
0.10					
0.12					
0.15					
0.22					
0.33					
0.47					
0.68					
1.0					




**B32559C**
**Compact design (stacked)**
**Ordering codes and packing units**

$V_R$	$V_{RMS}$ $f \leq 60$ Hz	$C_R$	Max. dimensions $w \times h \times l$	Ordering code (composition see below)	Ammo pack	Reel	Untaped
V DC	V AC	$\mu F$	mm		pcs./MOQ	pcs./MOQ	pcs./MOQ
63	40	0.22	$3.0 \times 6.5 \times 7.0$	B32559C0224+***	11200	9600	10000
		0.33	$3.0 \times 6.5 \times 7.0$	B32559C0334+***	12000	10400	10000
		0.47	$3.5 \times 7.0 \times 7.0$	B32559C0474+***	12000	10400	10000
		0.68	$3.5 \times 8.5 \times 7.0$	B32559C0684+***	9200	7600	8000
		1.0	$4.0 \times 10.5 \times 7.0$	B32559C0105+***	9200	7600	8000
100	63	0.033	$3.0 \times 6.5 \times 7.0$	B32559C1333+***	12000	10400	12000
		0.047	$3.0 \times 6.5 \times 7.0$	B32559C1473+***	12800	11200	12000
		0.056	$3.0 \times 7.0 \times 7.0$	B32559C1563+***	12000	10400	12000
		0.068	$3.0 \times 7.0 \times 7.0$	B32559C1683+***	12800	11200	12000
		0.10	$3.0 \times 7.0 \times 7.0$	B32559C1104+***	12800	11200	12000
		0.12	$3.0 \times 7.0 \times 7.0$	B32559C1124+***	12800	11200	12000
		0.15	$3.0 \times 7.0 \times 7.0$	B32559C1154+***	12800	11200	12000
		0.22	$3.5 \times 8.5 \times 7.0$	B32559C1224+***	11600	10000	12000
		0.33	$3.5 \times 8.5 \times 7.0$	B32559C1334+***	11600	10000	12000
		0.47	$3.5 \times 9.0 \times 7.0$	B32559C1474+***	10000	8400	10000
250	160	0.022	$3.0 \times 7.0 \times 7.0$	B32559C3223+***	12800	11200	12000
		0.027	$3.0 \times 7.0 \times 7.0$	B32559C3273+***	12800	11200	12000
		0.033	$3.0 \times 7.0 \times 7.0$	B32559C3333+***	12000	10400	12000
		0.047	$3.0 \times 7.0 \times 7.0$	B32559C3473+***	12800	11200	12000
		0.056	$3.0 \times 7.0 \times 7.0$	B32559C3563+***	10800	9200	1000
		0.068	$3.5 \times 7.0 \times 7.0$	B32559C3683+***	10800	9200	1000
		0.10	$3.5 \times 9.0 \times 7.0$	B32559C3104+***	12000	10400	8000
		0.12	$4.5 \times 9.0 \times 7.0$	B32559C3124+***	7200	5800	8000
		0.15	$4.5 \times 10.0 \times 7.0$	B32559C3154+***	7200	5600	8000

MOQ = Minimum Order Quantity, consisting of 4 packing units.

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

J =  $\pm 5\%$

\*\*\* = Packaging code:

489 = Ammo pack straight

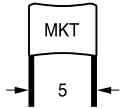
389 = Reel straight

289 = Ammo pack crimped

189 = Reel crimped

000 = Untaped crimped (lead length 6 – 1 mm)

001 = Untaped (lead length 6 – 1 mm)


**Ordering codes and packing units**

$V_R$	$V_{RMS}$ $f \leq 60$ Hz	$C_R$	Max. dimensions $w \times h \times l$	Ordering code (composition see below)	Ammo pack	Reel	Untaped
V DC	V AC	$\mu F$	mm		pcs./MOQ	pcs./MOQ	pcs./MOQ
400	200	0.0068	$3.0 \times 7.0 \times 7.0$	B32559C6682+***	12800	11200	12000
		0.0082	$3.0 \times 7.0 \times 7.0$	B32559C6822+***	12800	11200	12000
		0.010	$3.0 \times 7.5 \times 7.0$	B32559C6103+***	12800	11200	12000
		0.012	$3.0 \times 7.5 \times 7.0$	B32559C6123+***	12000	10400	12000
		0.015	$3.0 \times 7.5 \times 7.0$	B32559C6153+***	11200	9600	12000
		0.022	$3.0 \times 8.0 \times 7.0$	B32559C6223+***	12800	11200	12000
		0.027	$3.0 \times 8.0 \times 7.0$	B32559C6273+***	10800	9200	11200
		0.033	$3.5 \times 8.0 \times 7.0$	B32559C6333+***	9200	7600	10000
		0.047	$3.5 \times 9.5 \times 7.0$	B32559C6473+***	9200	7600	8000
		0.056	$4.0 \times 10.0 \times 7.0$	B32559C6563+***	8000	6400	6000
		0.068	$5.0 \times 10.0 \times 7.0$	B32559C6683+***	7200	5600	7200
		0.10	$5.5 \times 12.5 \times 7.0$	B32559C6104+***	6000	4400	7200
		0.12	$5.5 \times 13.0 \times 7.0$	B32559C6124+***	6000	4400	4800
630	400	0.0010	$3.0 \times 7.0 \times 7.0$	B32559C8102+***	12800	11200	12000
		0.0015	$3.0 \times 7.0 \times 7.0$	B32559C8152+***	12800	11200	12000
		0.0022	$3.0 \times 8.0 \times 7.0$	B32559C8222+***	12800	11200	12000
		0.0027	$3.0 \times 8.0 \times 7.0$	B32559C8272+***	12800	11200	12000
		0.0033	$3.5 \times 8.0 \times 7.0$	B32559C8332+***	10000	8400	8000
		0.0047	$3.5 \times 8.0 \times 7.0$	B32559C8472+***	12000	10400	8000
		0.0068	$3.5 \times 10.5 \times 7.0$	B32559C8682+***	12000	10400	8000
		0.0082	$3.5 \times 10.5 \times 7.0$	B32559C8822+***	12000	10400	8000
		0.010	$4.0 \times 10.5 \times 7.0$	B32559C8103+***	9200	7600	8800

MOQ = Minimum Order Quantity, consisting of 4 packing units.

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

J =  $\pm 5\%$

\*\*\* = Packaging code:

489 = Ammo pack straight

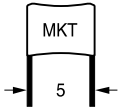
389 = Reel straight

289 = Ammo pack crimped

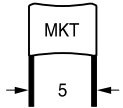
189 = Reel crimped

000 = Untaped crimped (lead length 6 – 1 mm)

001 = Untaped (lead length 6 – 1 mm)


**B32559C**
**Compact design (stacked)**
**Technical data**

Operating temperature range	Max. operating temperature $T_{op,max}$	+125 °C	
	Upper category temperature $T_{max}$	+125 °C	
	Lower category temperature $T_{min}$	-55 °C	
	Rated temperature $T_R$	+85 °C	
Dissipation factor $\tan \delta$ (in $10^{-3}$ ) at 20 °C (upper limit values)	at	$C_R \leq 0.1 \mu F$	$0.1 \mu F < C_R \leq 1 \mu F$
	1 kHz	8	10
	10 kHz	15	20
	100 kHz	30	–
Insulation resistance $R_{ins}$ or time constant $\tau = C_R \cdot R_{ins}$ at 20 °C, rel. humidity $\leq 65\%$ (minimum as-delivered values)	$V_R$	$C_R \leq 0.33 \mu F$	$C_R > 0.33 \mu F$
	$\leq 100$ V DC	3750 M $\Omega$	1250 s
	$\geq 250$ V DC	7500 M $\Omega$	2500 s
DC test voltage	$1.4 \cdot V_R, 2$ s		
Category voltage $V_C$ (continuous operation with $V_{DC}$ or $V_{AC}$ at $f \leq 60$ Hz)	$T_A$ (°C)	DC voltage derating	AC voltage derating
	$T_A \leq 85$	$V_C = V_R$	$V_{C,RMS} = V_{RMS}$
	$85 < T_A \leq 125$	$V_C = V_R \cdot (165 - T_A)/80$	$V_{C,RMS} = V_{RMS} \cdot (165 - T_A)/80$
Operating voltage $V_{op}$ for short operating periods ( $V_{DC}$ or $V_{AC}$ at $f \leq 60$ Hz)	$T_A$ (°C)	DC voltage (max. hours)	AC voltage (max. hours)
	$T_A \leq 100$	$V_{op} = 1.25 \cdot V_C$ (2000 h)	$V_{op} = 1.0 \cdot V_{C,RMS}$ (2000 h)
	$100 < T_A \leq 125$	$V_{op} = 1.25 \cdot V_C$ (1000 h)	$V_{op} = 1.0 \cdot V_{C,RMS}$ (1000 h)
Damp heat test Limit values after damp heat test	56 days/40 °C/93% relative humidity		
	Capacitance change $ \Delta C/C $	$\leq 5\%$	
	Dissipation factor change $\Delta \tan \delta$	$\leq 5 \cdot 10^{-3}$ (at 1 kHz)	
	Insulation resistance $R_{ins}$ or time constant $\tau = C_R \cdot R_{ins}$	$\geq 50\%$ of minimum as-delivered values	
Reliability:			
Failure rate $\lambda$	1 fit ( $\leq 1 \cdot 10^{-9}$ /h) at $0.5 \cdot V_R, 40$ °C		
Service life $t_{SL}$	200 000 h at $1.0 \cdot V_R, 85$ °C		
	For conversion to other operating conditions and temperatures, refer to chapter "Quality, 2 Reliability".		
Failure criteria:			
Total failure	Short circuit or open circuit		
Failure due to variation of parameters	Capacitance change $ \Delta C/C $	$> 10\%$	
	Dissipation factor $\tan \delta$	$> 2 \cdot$ upper limit value	
	Insulation resistance $R_{ins}$ or time constant $\tau = C_R \cdot R_{ins}$	$< 150$ M $\Omega$ ( $C_R \leq 0.33 \mu F$ ) $< 50$ s ( $C_R > 0.33 \mu F$ )	
Soldering conditions	Maximum solder bath temperature	260 °C	
	Maximum soldering time	4 s	



### Pulse handling capability

"dV/dt" represents the maximum permissible voltage change per unit of time for non-sinusoidal voltages, expressed in V/ $\mu$ s.

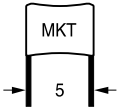
"k<sub>0</sub>" represents the maximum permissible pulse characteristic of the waveform applied to the capacitor, expressed in V<sup>2</sup>/ $\mu$ s.

*Note:*

*The values of dV/dt and k<sub>0</sub> provided below must not be exceeded in order to avoid damaging the capacitor.*

### dV/dt and k<sub>0</sub> values

V <sub>R</sub> (V DC)	V <sub>RMS</sub> (V AC)	dV/dt in V/ $\mu$ s	k <sub>0</sub> in V <sup>2</sup> / $\mu$ s
63	40	250	30 000
100	63	300	60 000
250	160	400	200 000
400	200	600	500 000
630	400	800	1 000 000

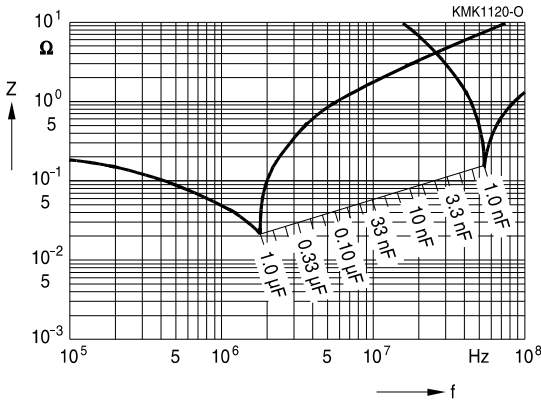


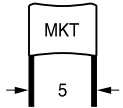
**B32559C**

**Compact design (stacked)**

**Impedance Z versus frequency f**

(typical values)



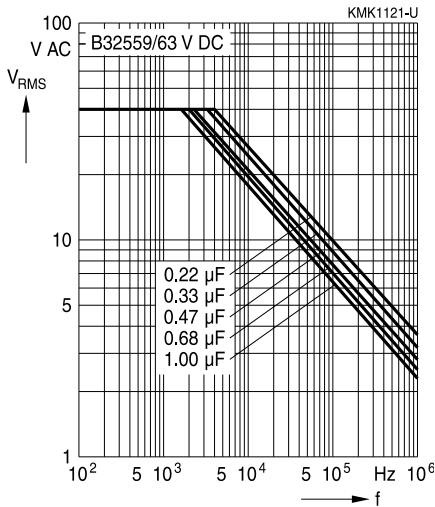


**Permissible AC voltage  $V_{RMS}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ C$ )**

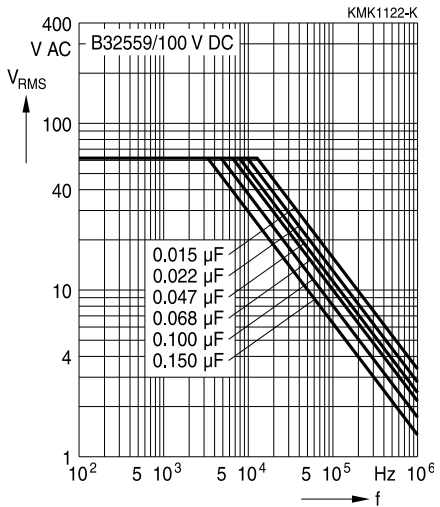
For  $T_A > 55^\circ C$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 5 mm**

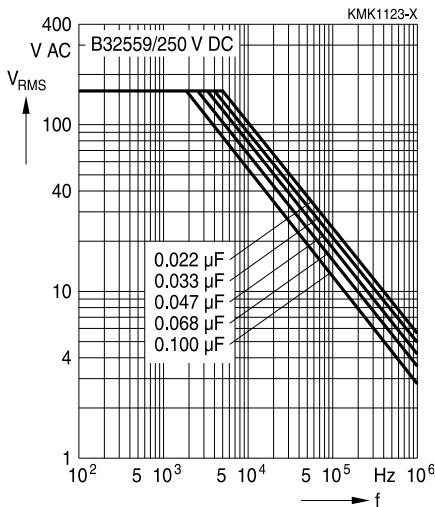
63 V DC/40 V AC



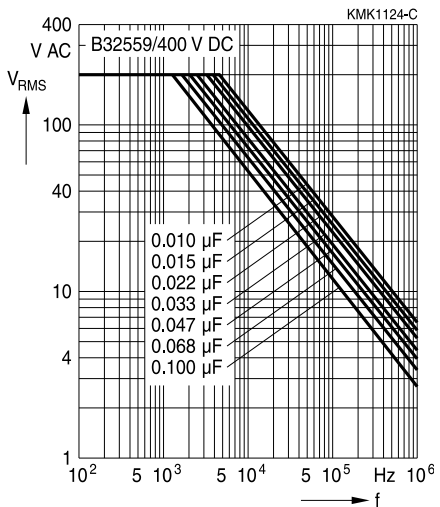
100 V DC/63 V AC

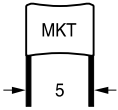


250 V DC/160 V AC



400 V DC/200 V AC





**B32559C**

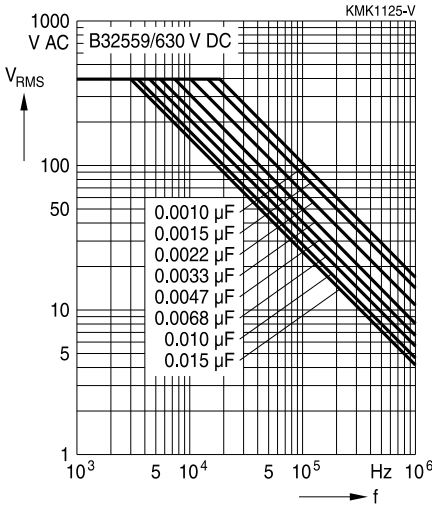
**Compact design (stacked)**

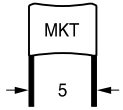
**Permissible AC voltage  $V_{RMS}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55\text{ }^\circ\text{C}$ )**

For  $T_A > 55\text{ }^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 5 mm**

630 V DC/400 V AC

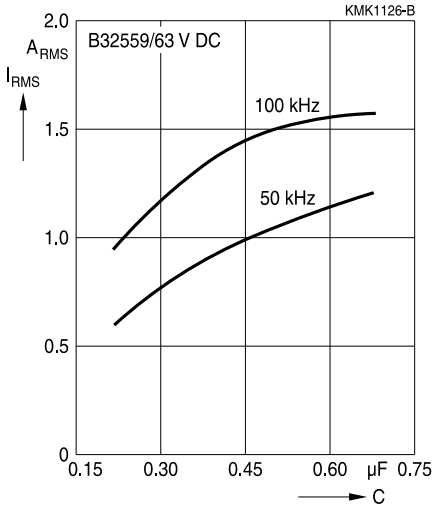




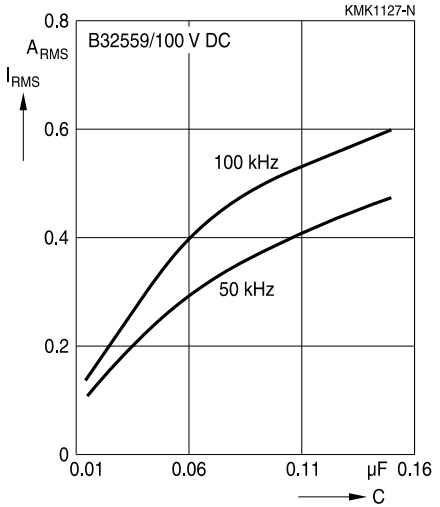
**Permissible AC current  $I_{RMS}$  versus frequency  $f$**

**Lead spacing 5 mm**

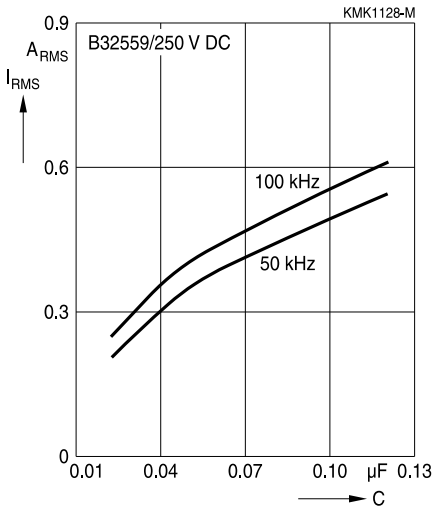
63 V DC/40 V AC



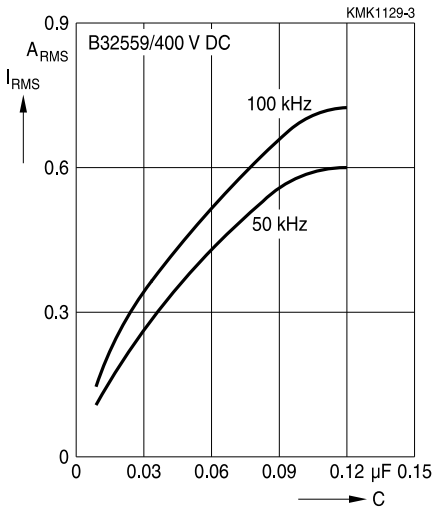
100 V DC/63 V AC



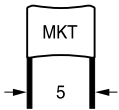
250 V DC/160 V AC



400 V DC/200 V AC







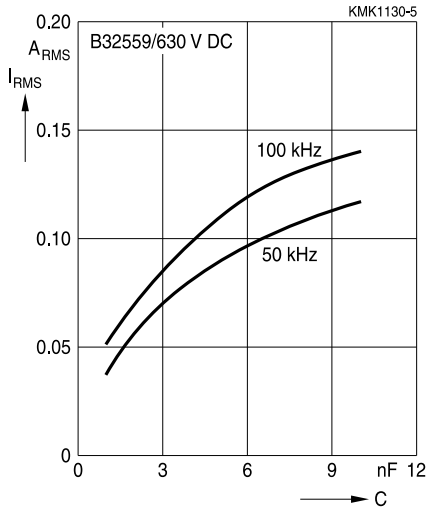
**B32559C**

**Compact design (stacked)**

**Permissible AC current  $I_{RMS}$  versus frequency  $f$**

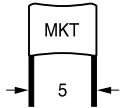
**Lead spacing 5 mm**

**630 V DC/400 V AC**



**B32559C**

**Compact design (stacked)**



**Mounting guidelines**

**1 Soldering**

**1.1 Solderability of leads**

The solderability of terminal leads is tested to IEC 60068-2-20, test Ta, method 1.

Before a solderability test is carried out, terminals are subjected to accelerated ageing (to IEC 60068-2-2, test Ba: 4 h exposure to dry heat at 155 °C). Since the ageing temperature is far higher than the upper category temperature of the capacitors, the terminal wires should be cut off from the capacitor before the ageing procedure to prevent the solderability being impaired by the products of any capacitor decomposition that might occur.

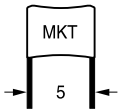
Solder bath temperature	235 ±5 °C
Soldering time	2.0 ±0.5 s
Immersion depth	2.0 +0/-0.5 mm from capacitor body or seating plane
Evaluation criteria:	
Visual inspection	Wetting of wire surface by new solder ≥90%, free-flowing solder

**1.2 Resistance to soldering heat**

Resistance to soldering heat is tested to IEC 60068-2-20, test Tb, method 1A.

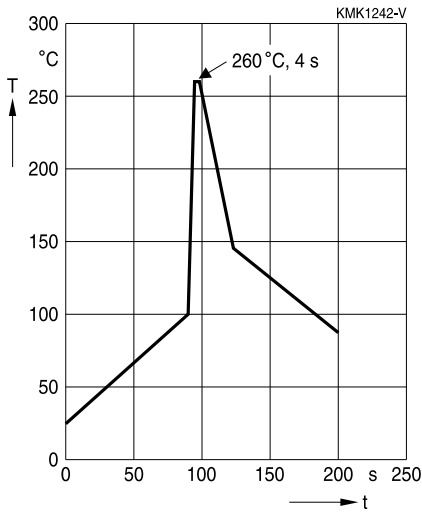
Conditions:

Series	Solder bath temperature	Soldering time
MKT boxed (except 2.5 × 6.5 × 7.2 mm) coated uncoated (lead spacing > 10 mm)	260 ±5 °C	10 ±1 s
MFP MKP (lead spacing > 7.5 mm)		
MKT boxed (case 2.5 × 6.5 × 7.2 mm)		5 ±1 s
MKP (lead spacing ≤ 7.5 mm)		< 4 s
MKT uncoated (lead spacing ≤ 10 mm) insulated (B32559)		recommended soldering profile for MKT uncoated (lead spacing ≤ 10 mm) and insulated (B32559)

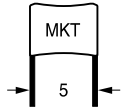


**B32559C**

**Compact design (stacked)**



Immersion depth	2.0 +0/−0.5 mm from capacitor body or seating plane
Shield	Heat-absorbing board, (1.5 ±0.5) mm thick, between capacitor body and liquid solder
Evaluation criteria:	
Visual inspection	No visible damage
$\Delta C/C_0$	2% for MKT/MKP/MFP 5% for EMI suppression capacitors
$\tan \delta$	As specified in sectional specification



### 1.3 General notes on soldering

Permissible heat exposure loads on film capacitors are primarily characterized by the upper category temperature  $T_{max}$ . Long exposure to temperatures above this type-related temperature limit can lead to changes in the plastic dielectric and thus change irreversibly a capacitor's electrical characteristics. For short exposures (as in practical soldering processes) the heat load (and thus the possible effects on a capacitor) will also depend on other factors like:

- Pre-heating temperature and time
- Forced cooling immediately after soldering
- Terminal characteristics:
  - diameter, length, thermal resistance, special configurations (e.g. crimping)
- Height of capacitor above solder bath
- Shadowing by neighboring components
- Additional heating due to heat dissipation by neighboring components
- Use of solder-resist coatings

The overheating associated with some of these factors can usually be reduced by suitable countermeasures. For example, if a pre-heating step cannot be avoided, an additional or reinforced cooling process may possibly have to be included.

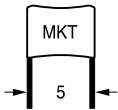
EPCOS recommends the following conditions:

- Pre-heating with a maximum temperature of 110 °C
- Temperature inside the capacitor should not exceed the following limits:
  - MKP/MFP 110 °C
  - MKT 160 °C
- When SMD components are used together with leaded ones, the leaded film capacitors should not pass into the SMD adhesive curing oven. The leaded components should be assembled after the SMD curing step.
- Leaded film capacitors are not suitable for reflow soldering.

#### Uncoated capacitors

For uncoated MKT capacitors with lead spacings  $\leq 10$  mm (B32560/B32561) the following measures are recommended:

- pre-heating to not more than 110 °C in the preheater phase
- rapid cooling after soldering



**B32559C**

**Compact design (stacked)**

## 2 Cleaning

To determine whether the following solvents, often used to remove flux residues and other substances, are suitable for the capacitors described, refer to the table below:

Type	Ethanol, isopropanol, n-propanol	n-propanol-water mixtures, water with surface tension-reducing tensides (neutral)	Solvent from table A (see next page)	Solvent from table B (see next page)
MKT (uncoated)	Suitable	Unsuitable	In part suitable	Unsuitable
MKT, MKP, MFP (coated/boxed)		Suitable	Suitable	

Even when suitable solvents are used, a reversible change of the electrical characteristics may occur in uncoated capacitors immediately after they are washed. Thus it is always recommended to dry the components (e.g. 4 h at 70 °C) before they are subjected to subsequent electrical testing.

**Table A**

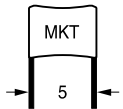
Manufacturers' designations for trifluoro-trichloro-ethane-based cleaning solvents (selection)

Trifluoro-trichloro-ethane	Mixtures of trifluoro-trichloro-ethane with ethanol and isopropanol	Manufacturer
Freon TF	Freon TE 35; Freon TP 35; Freon TES	Du Pont
Frigen 113 TR	Frigen 113 TR-E; Frigen 113 TR-P; Frigen TR-E 35	Hoechst
Arklone P	Arklone A; Arklone L; Arklone K	ICI
Kaltron 113 MDR	Kaltron 113 MDA; Kaltron 113 MDI; Kaltron 113 MDI 35	Kali-Chemie
Flugene 113	Flugene 113 E; Flugene 113 IPA	Rhone-Progil

**Table B (worldwide banned substances)**

Manufacturers' designations for unsuitable cleaning solvents (selection)

Mixtures of chlorinated hydrocarbons and ketones with fluorated hydrocarbons	Manufacturer
Freon TMC; Freon TA; Freon TC	Du Pont
Arklone E	ICI
Kaltron 113 MDD; Kaltron 113 MDK	Kali-Chemie
Flugene 113 CM	Rhone-Progil



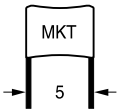
### 3 Embedding of capacitors in finished assemblies

In many applications, finished circuit assemblies are embedded in plastic resins. In this case, both chemical and thermal influences of the embedding ("potting") and curing processes must be taken into account.

Our experience has shown that the following potting materials can be recommended: non-flexible epoxy resins with acid-anhydride hardeners; chemically inert, non-conducting fillers; maximum curing temperature of 100 °C.

**Caution:**

Consult us first if you wish to embed uncoated types!



**B32559C**

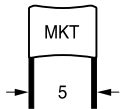
**Compact design (stacked)**

**Cautions and warnings**

- Do not exceed the upper category temperature (UCT).
- Do not apply any mechanical stress to the capacitor terminals.
- Avoid any compressive, tensile or flexural stress.
- Do not move the capacitor after it has been soldered to the PC board.
- Do not pick up the PC board by the soldered capacitor.
- Do not place the capacitor on a PC board whose PTH hole spacing differs from the specified lead spacing.
- Do not exceed the specified time or temperature limits during soldering.
- Avoid external energy inputs, such as fire or electricity.
- Avoid overload of the capacitors.

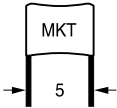
The table below summarizes the safety instructions that must always be observed. A detailed description can be found in the relevant sections of the chapters "General technical information" and "Mounting guidelines".

Topic	Safety information	Reference chapter "General technical information"
Storage conditions	Make sure that capacitors are stored within the specified range of time, temperature and humidity conditions.	4.5 "Storage conditions"
Flammability	Avoid external energy, such as fire or electricity (passive flammability), avoid overload of the capacitors (active flammability) and consider the flammability of materials.	5.3 "Flammability"
Resistance to vibration	Do not exceed the tested ability to withstand vibration. The capacitors are tested to IEC 60068-2-6. EPCOS offers film capacitors specially designed for operation under more severe vibration regimes such as those found in automotive applications. Consult our catalog "Film Capacitors for Automotive Electronics".	5.2 "Resistance to vibration"

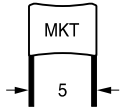


Topic	Safety information	Reference chapter "Mounting guidelines"
Soldering	Do not exceed the specified time or temperature limits during soldering.	1 "Soldering"
Cleaning	Use only suitable solvents for cleaning capacitors.	2 "Cleaning"
Embedding of capacitors in finished assemblies	When embedding finished circuit assemblies in plastic resins, chemical and thermal influences must be taken into account. Caution: Consult us first, if you also wish to embed other uncoated component types!	3 "Embedding of capacitors in finished assemblies"

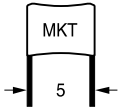



**B32559C**
**Compact design (stacked)**
**Symbols and terms**

Symbol	English	German
$\alpha$	Heat transfer coefficient	Wärmeübergangszahl
$\alpha_C$	Temperature coefficient of capacitance	Temperaturkoeffizient der Kapazität
A	Capacitor surface area	Kondensatoroberfläche
$\beta_C$	Humidity coefficient of capacitance	Feuchtekoeffizient der Kapazität
C	Capacitance	Kapazität
$C_R$	Rated capacitance	Nennkapazität
$\Delta C$	Absolute capacitance change	Absolute Kapazitätsänderung
$\Delta C/C$	Relative capacitance change (relative deviation of actual value)	Relative Kapazitätsänderung (relative Abweichung vom Ist-Wert)
$\Delta C/C_R$	Capacitance tolerance (relative deviation from rated capacitance)	Kapazitätstoleranz (relative Abweichung vom Nennwert)
dt	Time differential	Differentielle Zeit
$\Delta t$	Time interval	Zeitintervall
$\Delta T$	Absolute temperature change (self-heating)	Absolute Temperaturänderung (Selbsterwärmung)
$\Delta \tan \delta$	Absolute change of dissipation factor	Absolute Änderung des Verlustfaktors
$\Delta V$	Absolute voltage change	Absolute Spannungsänderung
dV/dt	Time differential of voltage function (rate of voltage rise)	Differentielle Spannungsänderung (Spannungsflankensteilheit)
$\Delta V/\Delta t$	Voltage change per time interval	Spannungsänderung pro Zeitintervall
E	Activation energy for diffusion	Aktivierungsenergie zur Diffusion
ESL	Self-inductance	Eigeninduktivität
ESR	Equivalent series resistance	Ersatz-Serienwiderstand
f	Frequency	Frequenz
$f_1$	Frequency limit for reducing permissible AC voltage due to thermal limits	Grenzfrequenz für thermisch bedingte Reduzierung der zulässigen Wechselspannung
$f_2$	Frequency limit for reducing permissible AC voltage due to current limit	Grenzfrequenz für strombedingte Reduzierung der zulässigen Wechselspannung
$f_r$	Resonant frequency	Resonanzfrequenz
$F_D$	Thermal acceleration factor for diffusion	Therm. Beschleunigungsfaktor zur Diffusion
$F_T$	Derating factor	Deratingfaktor
i	Current (peak)	Stromspitze
$I_C$	Category current (max. continuous current)	Kategoriestrom (max. Dauerstrom)



Symbol	English	German
$I_{RMS}$	(Sinusoidal) alternating current, root-mean-square value	(Sinusförmiger) Wechselstrom
$i_z$	Capacitance drift	Inkonstanz der Kapazität
$k_0$	Pulse characteristic	Impuls Kennwert
$L_S$	Series inductance	Serieninduktivität
$\lambda$	Failure rate	Ausfallrate
$\lambda_0$	Constant failure rate during useful service life	Konstante Ausfallrate in der Nutzungsphase
$\lambda_{test}$	Failure rate, determined by tests	Experimentell ermittelte Ausfallrate
$P_{diss}$	Dissipated power	Abgegebene Verlustleistung
$P_{gen}$	Generated power	Erzeugte Verlustleistung
$Q$	Heat energy	Wärmeenergie
$\rho$	Density of water vapor in air	Dichte von Wasserdampf in Luft
$R$	Universal molar constant for gases	Allg. Molarkonstante für Gas
$R$	Ohmic resistance of discharge circuit	Ohmscher Widerstand des Entladekreises
$R_i$	Internal resistance	Innenwiderstand
$R_{ins}$	Insulation resistance	Isolationswiderstand
$R_P$	Parallel resistance	Parallelwiderstand
$R_S$	Series resistance	Serienwiderstand
$S$	severity (humidity test)	Schärfegrad (Feuchtest)
$t$	Time	Zeit
$T$	Temperature	Temperatur
$\tau$	Time constant	Zeitkonstante
$\tan \delta$	Dissipation factor	Verlustfaktor
$\tan \delta_D$	Dielectric component of dissipation factor	Dielektrischer Anteil des Verlustfaktors
$\tan \delta_P$	Parallel component of dissipation factor	Parallelanteil des Verlustfaktors
$\tan \delta_S$	Series component of dissipation factor	Serienanteil des Verlustfaktors
$T_A$	Ambient temperature	Umgebungstemperatur
$T_{max}$	Upper category temperature	Obere Kategorietemperatur
$T_{min}$	Lower category temperature	Untere Kategorietemperatur
$t_{OL}$	Operating life at operating temperature and voltage	Betriebszeit bei Betriebstemperatur und -spannung
$T_{op}$	Operating temperature	Betriebstemperatur
$T_R$	Rated temperature	Nenntemperatur
$T_{ref}$	Reference temperature	Referenztemperatur
$t_{SL}$	Reference service life	Referenz-Lebensdauer
$V_{AC}$	AC voltage	Wechselspannung


**B32559C**
**Compact design (stacked)**

Symbol	English	German
$V_C$	Category voltage	Kategoriespannung
$V_{C,RMS}$	Category AC voltage	(Sinusförmige) Kategorie-Wechselspannung
$V_{CD}$	Corona-discharge onset voltage	Teilentlade-Einsatzspannung
$V_{ch}$	Charging voltage	Ladespannung
$V_{DC}$	DC voltage	Gleichspannung
$V_{FB}$	Fly-back capacitor voltage	Spannung (Flyback)
$V_i$	Input voltage	Eingangsspannung
$V_o$	Output voltage	Ausgangssspannung
$V_{op}$	Operating voltage	Betriebsspannung
$V_p$	Peak pulse voltage	Impuls-Spitzenspannung
$V_{pp}$	Peak-to-peak voltage Impedance	Spannungshub
$V_R$	Rated voltage	Nennspannung
$\hat{V}_R$	Amplitude of rated AC voltage	Amplitude der Nenn-Wechselspannung
$V_{RMS}$	(Sinusoidal) alternating voltage, root-mean-square value	(Sinusförmige) Wechselspannung
$V_{SC}$	S-correction voltage	Spannung bei Anwendung "S-correction"
$V_{sn}$	Snubber capacitor voltage	Spannung bei Anwendung "Beschaltung"
$Z$	Impedance	Scheinwiderstand
$e$	Lead spacing	Rastermaß

## Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule we are either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet ([www.tdk-electronics.tdk.com/material](http://www.tdk-electronics.tdk.com/material)). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.  
  
We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.
6. Unless otherwise agreed in individual contracts, **all orders are subject to our General Terms and Conditions of Supply**.
7. **Our manufacturing sites serving the automotive business apply the IATF 16949 standard**. The IATF certifications confirm our compliance with requirements regarding the quality management system in the automotive industry. Referring to customer requirements and customer specific requirements ("CSR") TDK always has and will continue to have the policy of respecting individual agreements. Even if IATF 16949 may appear to support the acceptance of unilateral requirements, we hereby like to emphasize that **only requirements mutually agreed upon can and will be implemented in our Quality Management System**. For clarification purposes we like to point out that obligations from IATF 16949 shall only become legally binding if individually agreed upon.
8. The trade names EPCOS, CeraCharge, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CTVS, DeltaCap, DigiSiMic, ExoCore, FilterCap, FormFit, LeaXield, MiniBlue, MiniCell, MKD, MKK, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PowerHap, PQSine, PQvar, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, ThermoFuse, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at [www.tdk-electronics.tdk.com/trademarks](http://www.tdk-electronics.tdk.com/trademarks).