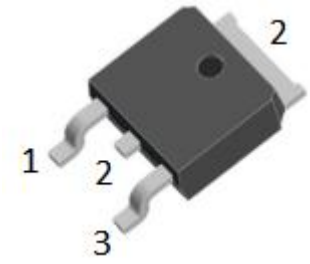
Technical Data
Data Sheet N0047, Rev. A

MBRD2045CT SCHOTTKY RECTIFIER

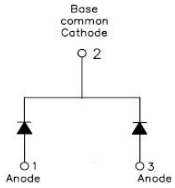


DPAK

Features

- **150℃ T_J operation**
- **Center tap configuration**
- **Low forward voltage drop**
- **High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance**
- **High frequency operation**
- **Guard ring for enhanced ruggedness and long term reliability**
- **"-A" is an AEC-Q101 qualified device**
- **This is a Pb − Free Device**
- **All SMC parts are traceable to the wafer lot**
- **Additional testing can be offered upon request**

Circuit Diagram



Applications

- **Switching power supply**
- **Converters**
- **Free-Wheeling diodes**
- **Reverse battery protection**
- **Battery charging**

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	45	V
Average Rectified Forward Current	$I_{F\ (AV)}$	50% duty cycle @T_C =135°C, rectangular wave form	10(Peg Leg) 20(Peg Device)	A
Peak One Cycle Non-Repetitive Surge Current(peg leg)	I_{FSM}	8.3 ms, half Sine pulse	150	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Peg Leg) *	V_{F1}	@ 20A, Pulse, T_J = 25 °C	0.74	0.84	V
	V_{F2}	@ 20A, Pulse, T_J = 125 °C	0.70	0.72	V
Reverse Current (Peg Leg) *	I_{R1}	@V_R = rated V_R, T_J = 25 °C	0.03	1	mA
	I_{R2}	@V_R = rated V_R, T_J = 125 °C	9	15.0	mA
Junction Capacitance(Peg Leg)	C_T	@V_R = 5V, T_C = 25 °C, f_{SIG} = 1MHz	280	400	pF

* Pulse width < 300 μs, duty cycle < 2%

Technical Data
Data Sheet N0047, Rev. A

RoHS

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to + 150	°C
Typical Thermal Resistance Junction to Case(Peg Leg)	$R_{\theta JC}$	-	5	°C/W
Approximate Weight	wt	-	0.39	g
Case Style	DPAK			

Ratings and Characteristics Curves

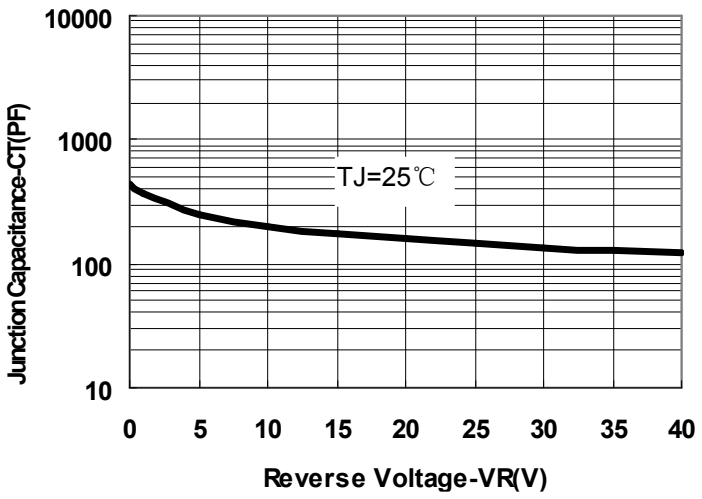


Fig.1-Typical Junction Capacitance

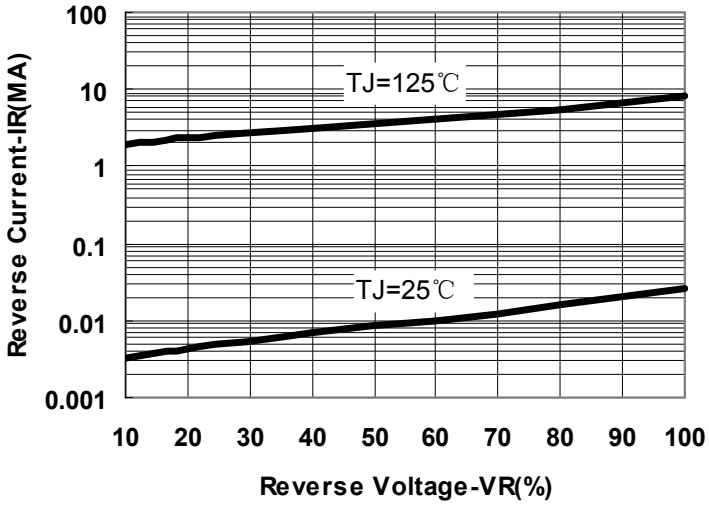


Fig.2-Typical Reverse Characteristics

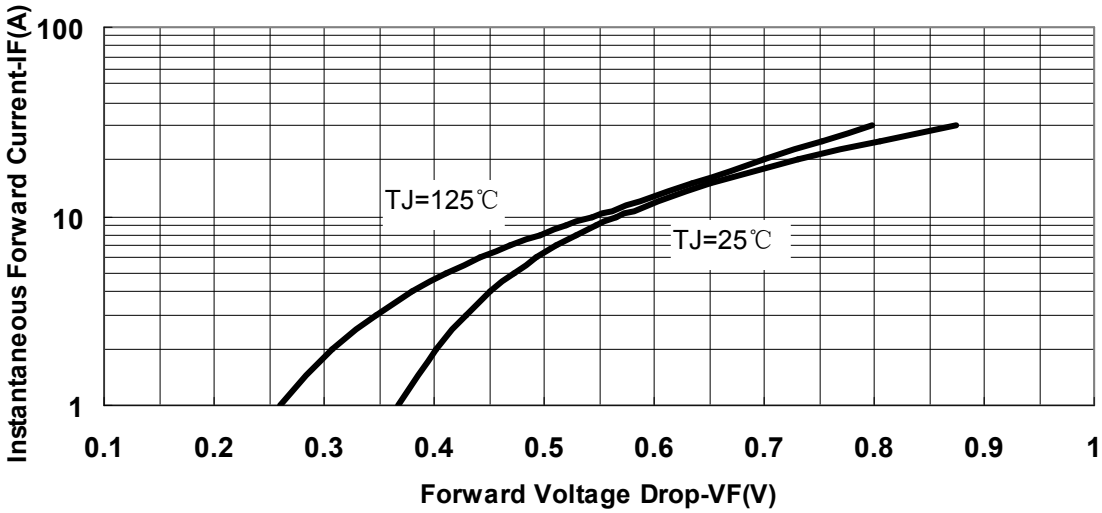
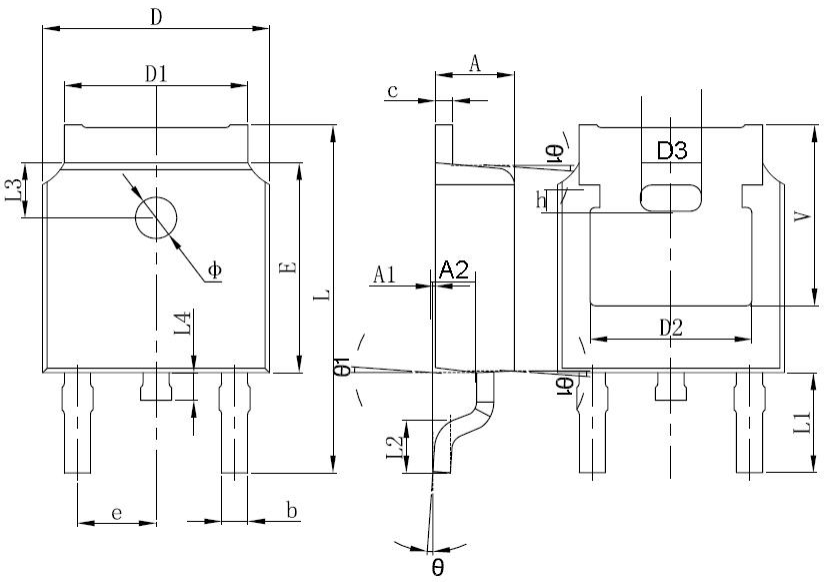


Fig.3-Typical Instantaneous Forward Voltage Characteristics

MBRD2045CT

Technical Data
Data Sheet N0047, Rev. A

Mechanical Dimensions DPAK



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.40	0.087	0.094
A1	0.00	0.127	0.000	0.005
b	0.66	0.86	0.026	0.034
c	0.46	0.60	0.018	0.024
D	6.50	6.70	0.256	0.264
D1	5.13	5.46	0.202	0.215
D2	4.83 REF.		0.190 REF.	
E	6.00	6.20	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.70	10.40	0.381	0.409
L1	2.90 REF.		0.144 REF.	
L2	1.40	1.70	0.055	0.067
L3	1.60 REF.		0.063 REF.	
L4	0.60	1.00	0.024	0.039
Φ	1.10	1.30	0.043	0.051
Θ	0°	8°	0°	8°
h	0.00	0.30	0.000	0.012
V	5.35 REF.		0.211 REF.	

Ordering Information

Device	Package	Shipping
MBRD2045CT	DPAK (Pb-Free)	2500pcs / reel
MBRD2045CTTR	DPAK (Pb-Free)	2500pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel Packaging specification.

Marking Diagram

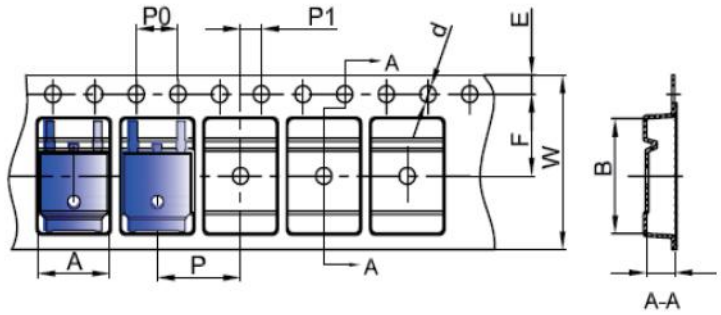


Where XXXXX is YYWWL

MBR	= Device Type
D	= Package type
20	= Forward Current (20A)
45	= Reverse Voltage (45V)
CT	= Configuration
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Carrier Tape Specification DPAK



SYMBOL	Millimeters	
	Min.	Max.
A	6.80	7.00
B	10.40	10.60
C	2.60	2.80
d	Φ1.45	Φ1.65
E	1.65	1.85
F	7.40	7.60
P0	3.90	4.10
P	7.90	8.10
P1	1.90	2.10
W	15.90	16.30

Technical Data
Data Sheet N0047, Rev. A

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