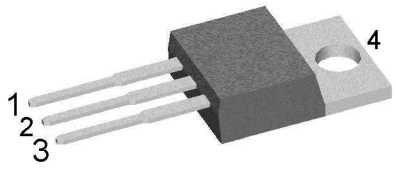
Schottky Diode

V_{RRM}	=	180 V
I_{FAV}	= 2x	5 A
V_F	=	0.6 V

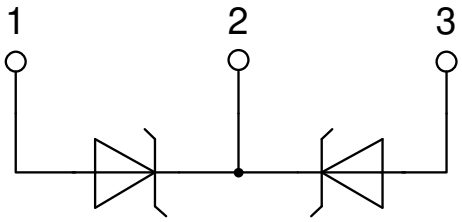
High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

Part number

DSSK10-018A



Backside: cathode



Features / Advantages:

- Very low Vf
- Extremely low switching losses
- Low Irm values
- Improved thermal behaviour
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching

Applications:

- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

Package: TO-220

- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0

Disclaimer Notice

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.

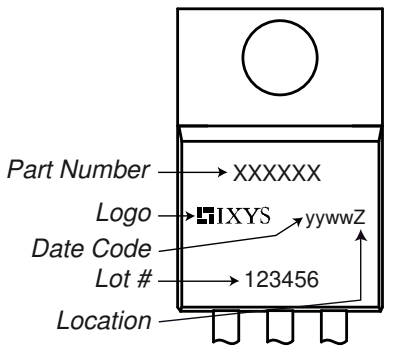
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Schottky				Ratings			
Symbol	**Definition**	**Conditions**		**min.**	**typ.**	**max.**	**Unit**
V_{RSM}	*max. non-repetitive reverse blocking voltage*		T_{VJ} = 25°C			180	V
V_{RRM}	*max. repetitive reverse blocking voltage*		T_{VJ} = 25°C			180	V
I_R	*reverse current, drain current*	V_R = 180 V	T_{VJ} = 25°C			300	µA
		V_R = 180 V	T_{VJ} = 125°C			2.5	mA
V_F	*forward voltage drop*	I_F = 5 A	T_{VJ} = 25°C			0.76	V
		I_F = 10 A				0.83	V
		I_F = 5 A	T_{VJ} = 125°C			0.60	V
		I_F = 10 A				0.69	V
I_{FAV}	*average forward current*	T_C = 165°C	T_{VJ} = 175°C			5	A
		rectangular d = 0.5					
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 175°C			0.43	V
r_F	*slope resistance* }					16.6	mΩ
R_{thJC}	*thermal resistance junction to case*					1.7	K/W
R_{thCH}	*thermal resistance case to heatsink*				0.5		K/W
P_{tot}	*total power dissipation*		T_C = 25°C			90	W
I_{FSM}	*max. forward surge current*	t = 10 ms; (50 Hz), sine; V_R = 0 V	T_{VJ} = 45°C			120	A
C_J	*junction capacitance*	V_R = 24 V f = 1 MHz	T_{VJ} = 25°C		72		pF

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Package TO-220			Ratings			
Symbol	**Definition**	**Conditions**	**min.**	**typ.**	**max.**	**Unit**
I_{RMS}	*RMS current*	per terminal 1)			35	A
T_{VJ}	*virtual junction temperature*		-55		175	°C
T_{op}	*operation temperature*		-55		150	°C
T_{stg}	*storage temperature*		-55		150	°C
Weight				2		g
M_D	*mounting torque*		0.4		0.6	Nm
F_C	*mounting force with clip*		20		60	N

Product Marking

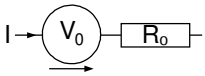


Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSSK10-018A	DSSK10-018A	Tube	50	477206

Similar Part	Package	Voltage class
DSSK30-018A	TO-247AD (3)	180
DSA30C200PB	TO-220AB (3)	200

Equivalent Circuits for Simulation

** on die level* $T_{VJ} = 175°C$

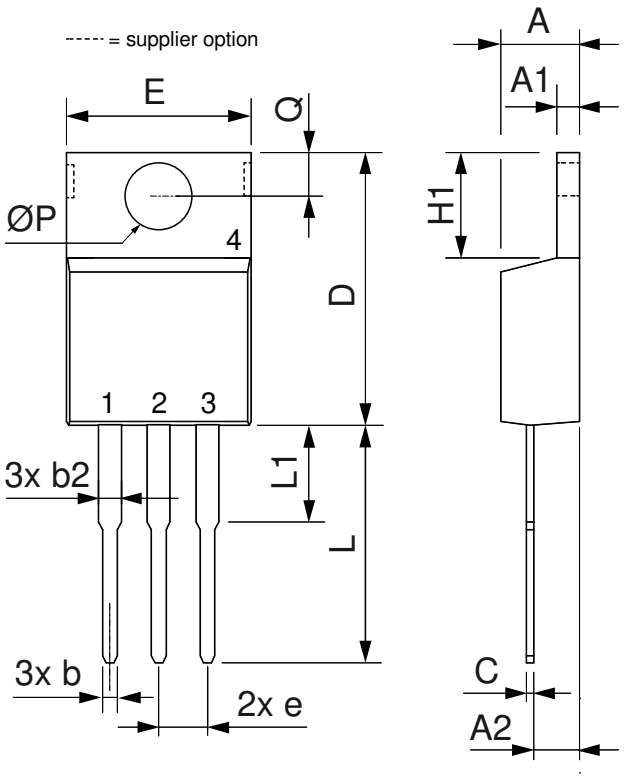


Schottky

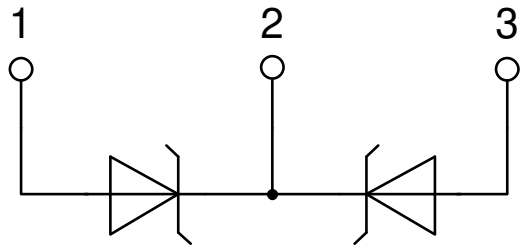
$V_{0\,max}$	*threshold voltage*	0.43	V
$R_{0\,max}$	*slope resistance **	13.4	mΩ

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Outlines TO-220



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.32	4.82	0.170	0.190
A1	1.14	1.39	0.045	0.055
A2	2.29	2.79	0.090	0.110
b	0.64	1.01	0.025	0.040
b2	1.15	1.65	0.045	0.065
C	0.35	0.56	0.014	0.022
D	14.73	16.00	0.580	0.630
E	9.91	10.66	0.390	0.420
e	2.54	BSC	0.100	BSC
H1	5.85	6.85	0.230	0.270
L	12.70	13.97	0.500	0.550
L1	2.79	5.84	0.110	0.230
ØP	3.54	4.08	0.139	0.161
Q	2.54	3.18	0.100	0.125



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Schottky

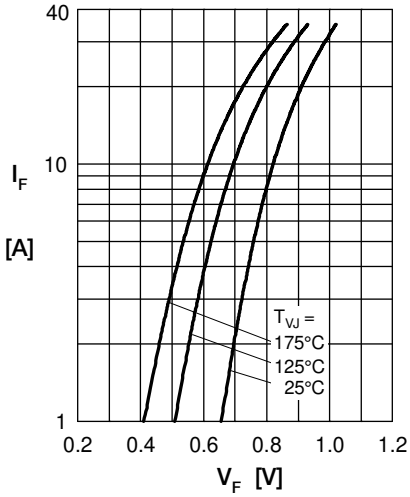


Fig. 1 Max. forward voltage drop characteristics

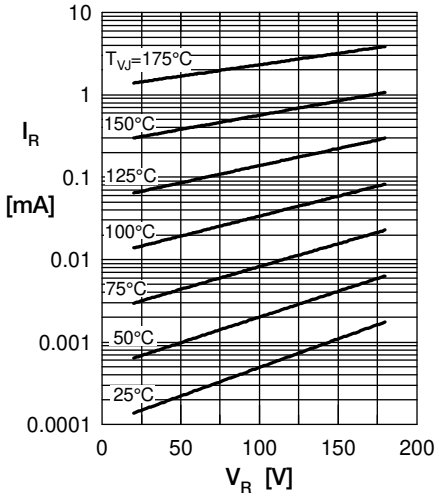


Fig. 2 Typ. reverse current I_R vs. reverse voltage V_R

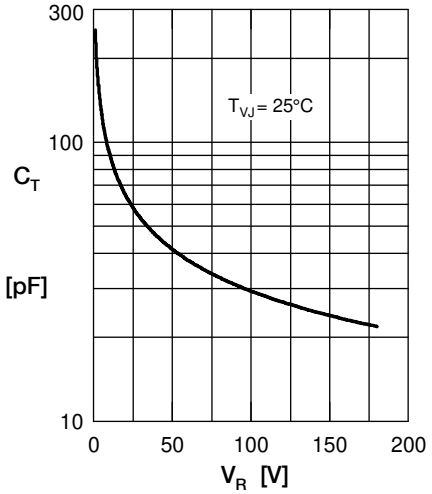


Fig. 3 Typ. junction capacitance C_T vs. reverse voltage V_R

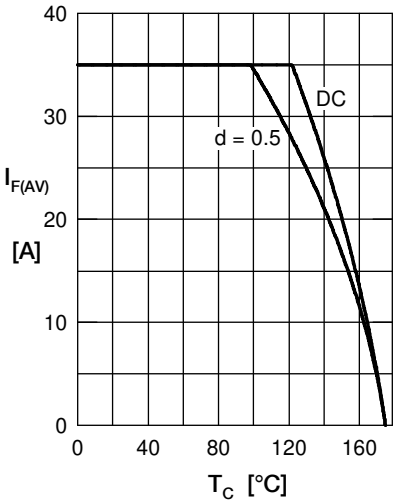


Fig. 4 Average forward current $I_{F(AV)}$ vs. case temp. T_C

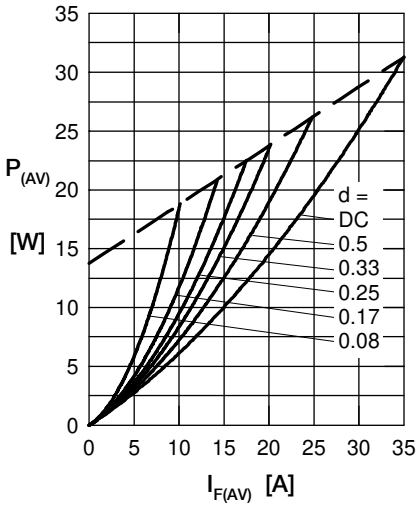


Fig. 5 Forward power loss characteristics

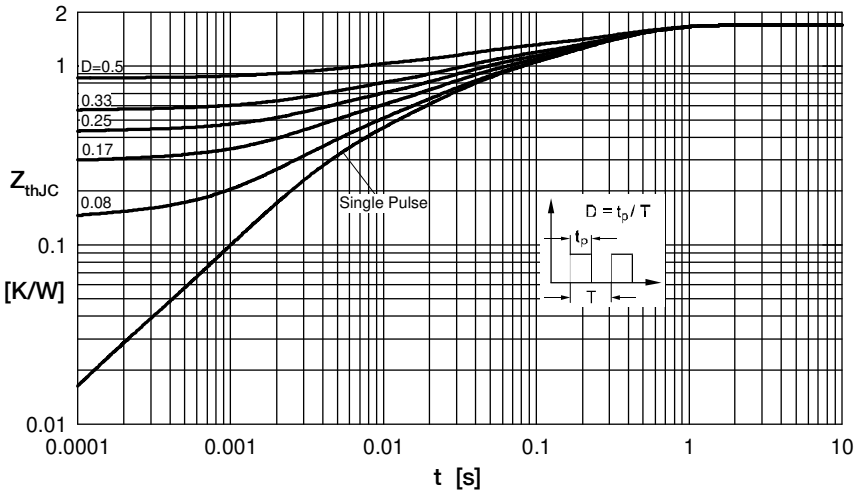


Fig. 6 Transient thermal impedance junction to case at various duty cycles

Note: All curves are per diode

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