advanced

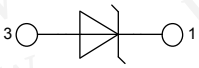
Schottky Diode

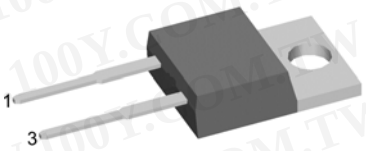
V_{RRM} = 15 V
I_{FAV} = 20 A
V_F = 0.39 V

High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

Part number

DSB 20 I 15 PA





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:

- Housing: TO-220
- Industry standard outline
- Epoxy meets UL 94V-0
- RoHS compliant

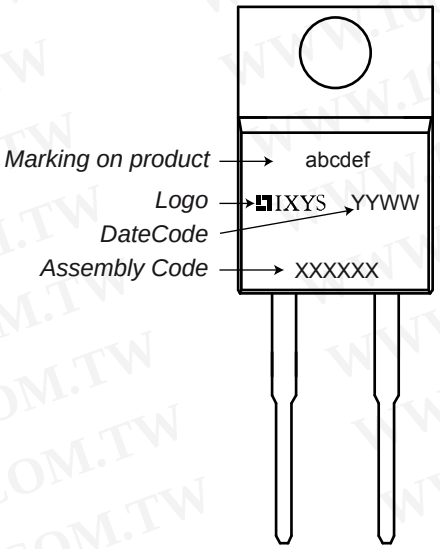
Symbol	Definition	Conditions		Ratings min.	typ.	max.	Unit
V_{RRM}	*max. repetitive reverse voltage*		T_{VJ} = 25°C			15	V
I_R	*reverse current*	V_R = 15 V	T_{VJ} = 25°C			10	µA
		V_R = 15 V	T_{VJ} = 100°C			40	mA
V_F	*forward voltage*	I_F = 20 A	T_{VJ} = 25°C			0.48	V
		I_F = 40 A				0.60	V
		I_F = 20 A	T_{VJ} = 125°C			0.39	V
		I_F = 40 A				0.54	V
I_{FAV}	*average forward current*	rectangular, d = 0.5	T_C = 130°C			20	A
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 150°C			0.23	V
r_F	*slope resistance* }					7.2	mΩ
R_{thJC}	*thermal resistance junction to case*					1.75	K/W
T_{VJ}	*virtual junction temperature*			-55		150	°C
P_{tot}	*total power dissipation*		T_C = 25°C			70	W
I_{FSM}	*max. forward surge current*	t = 10 ms (50 Hz), sine	T_{VJ} = 45°C			160	A
C_J	*junction capacitance*	V_R = tbd V; f = 1 MHz	T_{VJ} = 25°C		tbd		pF

advanced

Symbol	Definition	Conditions	Ratings min.	typ.	max.	Unit
I_{RMS}	*RMS current*	per pin [1]			35	A
R_{thCH}	*thermal resistance case to heatsink*			0.50		K/W
T_{stg}	*storage temperature*		-55		150	°C
Weight				2		g
M_D	*mounting torque*		0.4		0.8	Nm
F_C	*mounting force with clip*		20		60	N

[1] I_{RMS} is typically limited by: 1. pin-to-chip resistance; or by 2. current capability of the chip.
In case of 1, a common cathode/anode configuration and a non-isolated backside, the whole current capability can be used by connecting the backside.

Product Marking



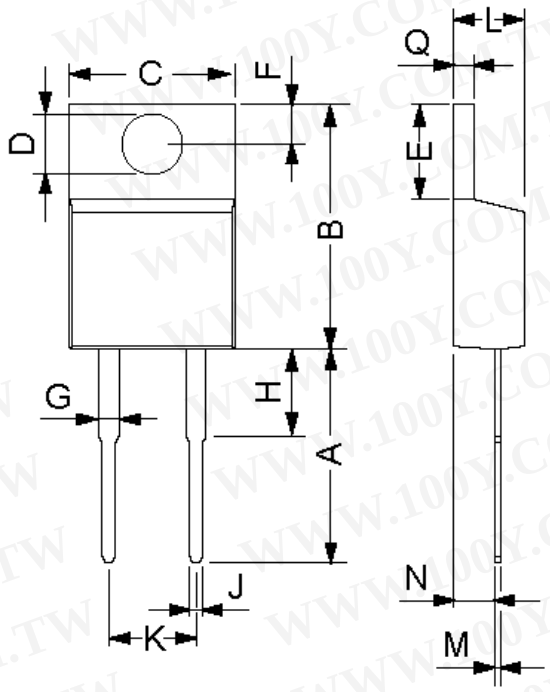
Part number

D = Diode
S = Schottky Diode
B = ultra low VF
20 = Current Rating [A]
I = Common Cathode
15 = Reverse Voltage [V]
PA = TO-220AC (2)

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DSB 20 I 15 PA	DSB20I15PA	Tube		

Package

Outlines TO-220



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.7	14.73	0.5	0.58
B	14.23	16.51	0.56	0.65
C	9.66	10.66	0.38	0.42
D	3.54	4.08	0.139	0.161
E	5.85	6.85	2.3	0.42
F	2.54	3.42	0.1	0.135
G	1.15	1.77	0.045	0.07
H	-	6.35	-	0.25
J	0.64	0.89	0.025	0.035
K	4.83	5.33	0.19	0.21
L	3.56	4.82	0.14	0.19
M	0.51	0.76	0.02	0.03
N	2.04	2.49	0.08	0.115
Q	0.64	1.39	0.025	0.055