advanced

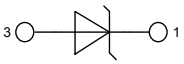
Schottky Diode Gen ²

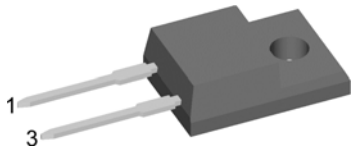
V_{RRM} = 45 V
I_{FAV} = 10 A
V_F = 0.52 V

High Performance Schottky Diode
Low Loss and Soft Recovery
Single Diode

Part number

DSB 10 I 45 PM





Backside: isolated

E72873

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-220FP
- Industry standard outline
- Plastic overmolded tab for electrical isolation
- Isolation Voltage 2500 V
- UL registered E 72873
- Epoxy meets UL 94V-0
- RoHS compliant

Ratings

Symbol	Definition	Conditions		min.	typ.	max.	Unit
V_{RRM}	*max. repetitive reverse voltage*		T_{VJ} = 25°C			45	V
I_R	*reverse current*	V_R = 45 V	T_{VJ} = 25°C			7	mA
		V_R = 45 V	T_{VJ} = 100°C			35	mA
V_F	*forward voltage*	I_F = 10 A	T_{VJ} = 25°C			0.56	V
		I_F = 20 A				0.78	V
		I_F = 10 A	T_{VJ} = 125°C			0.52	V
		I_F = 20 A				0.74	V
I_{FAV}	*average forward current*	rectangular d = 0.5	T_C = 115°C			10	A
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 150°C			0.30	V
r_F	*slope resistance* }					20.7	mΩ
R_{thJC}	*thermal resistance junction to case*					4.50	K/W
T_{VJ}	*virtual junction temperature*			-55		150	°C
P_{tot}	*total power dissipation*		T_C = 25°C			30	W
I_{FSM}	*max. forward surge current*	t = 10 ms (50 Hz), sine	T_{VJ} = 45°C			112	A
C_J	*junction capacitance*	V_R = 5 V; f = 1 MHz	T_{VJ} = 25°C		326		pF
E_{AS}	*non-repetitive avalanche energy*	I_{AS} = 20 A; L = 100 µH	T_{VJ} = 25°C			20	mJ
I_{AR}	*repetitive avalanche current*	$V_A = 1.5 \cdot V_R$ typ.: f = 10 kHz				2	A

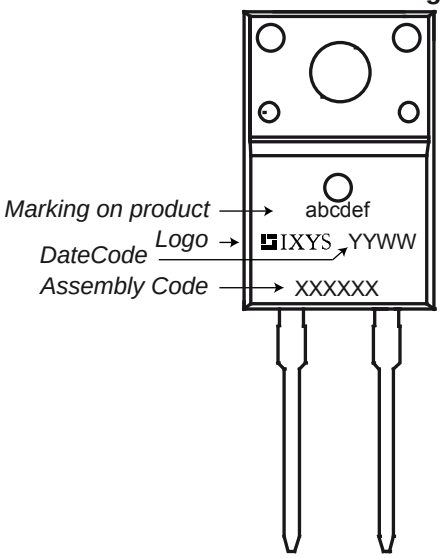
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advanced

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		0.6	Nm
F_C	*mounting force with clip*		20		60	N
V_{ISOL}	*isolation voltage*	t = 1 second	2500			V
		t = 1 minute	2000			V

[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



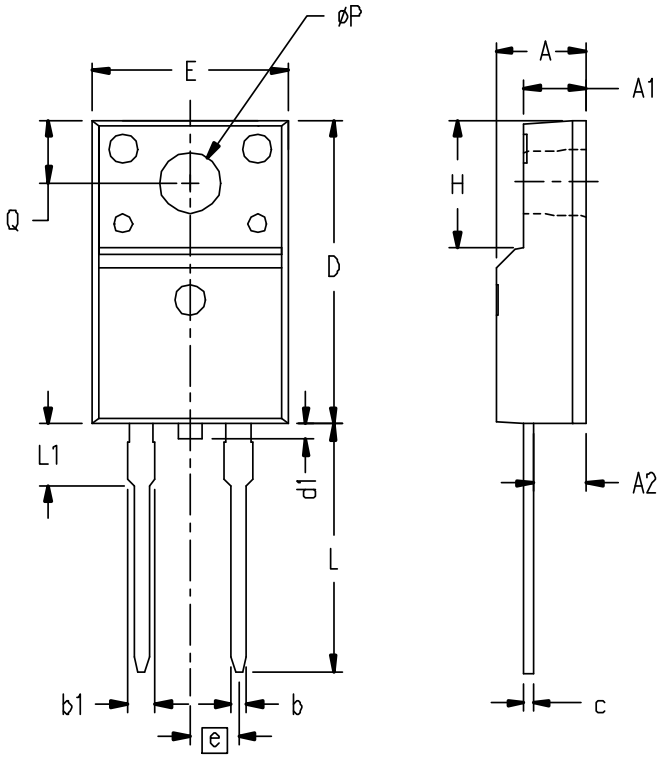
Part number

D = Diode
S = Schottky Diode
B = ultra low VF
10 = Current Rating [A]
I = Single Diode
45 = Reverse Voltage [V]
PM = TO-220ACFP (2)

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DSB 10 I 45 PM	DSB10I45PM	Tube	50	504423

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Outlines TO-220FP



SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.177	.193	4.50	4.90
A1	.092	.108	2.34	2.74
A2	.101	.117	2.56	2.96
b	.028	.035	0.70	0.90
b1	.050	.058	1.27	1.47
c	.018	.024	0.45	0.60
D	.617	.633	15.67	16.07
d1	0	.043	0	1.10
E	.392	.408	9.96	10.36
e	.100 BSC		2.54 BSC	
H	.255	.271	6.48	6.88
L	.499	.523	12.68	13.28
L1	.119	.135	3.03	3.43
ØP	.121	.129	3.08	3.28
Q	.126	.134	3.20	3.40

NOTE:

1. All metal surface are matte pure tin plated except trimmed area.

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