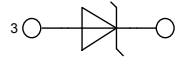


# Schottky Diode Gen<sup>2</sup>

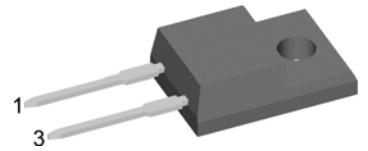
High Performance Schottky Diode  
Low Loss and Soft Recovery  
Single Diode

Part number

**DSB 10 I 45 PM**



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



Backside: isolated

E72873

### Features / Advantages:

- Very low  $V_f$
- Extremely low switching losses
- low  $I_{rm}$  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:

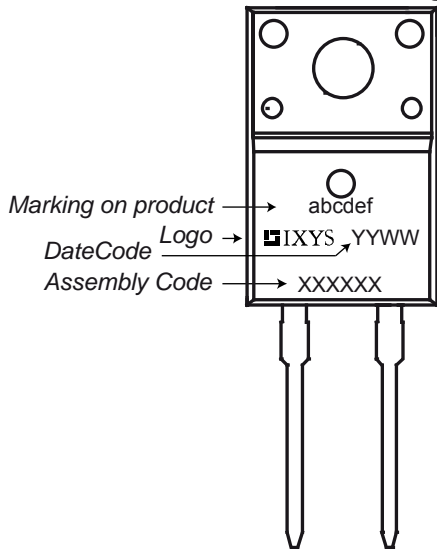
- Housing: TO-220FP
- Industry standard outline
- Plastic overmolded tab for electrical isolation
- Isolation Voltage 2500 V
- UL registered E 72873
- Epoxy meets UL 94V-0
- RoHS compliant

### Ratings

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

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
$I_{RMS}$	RMS current	per pin <sup>1)</sup>			35	A
$R_{thCH}$	thermal resistance case to heatsink			0.50		K/W
$T_{stg}$	storage temperature		-55		150	°C
<b>Weight</b>				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

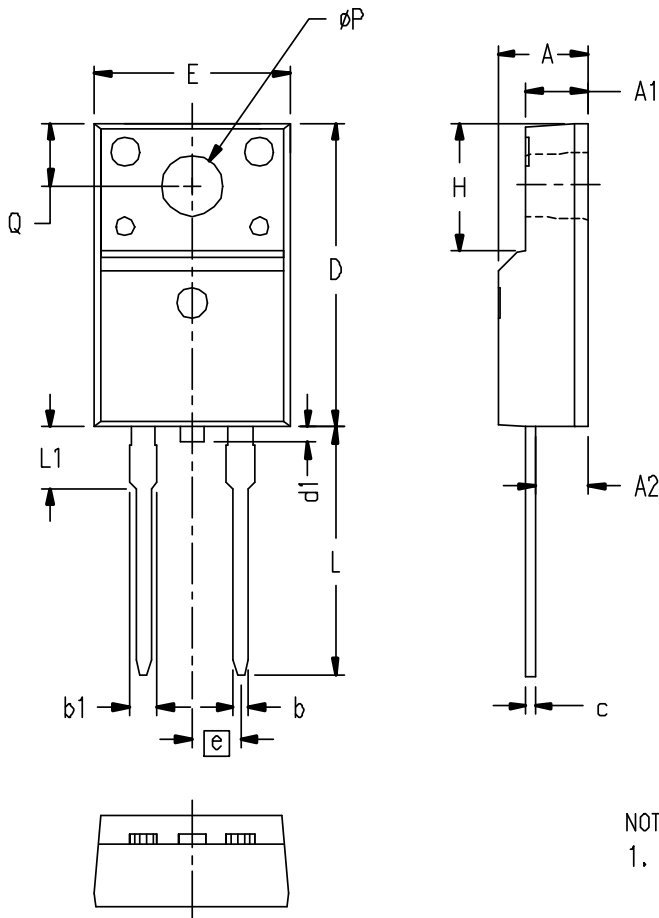
<sup>1)</sup>  $I_{RMS}$  is typically limited by: 1. pin-to-chip resistance; or by 2. current capability of the chip.  
 In case of 1, a common cathode/anode configuration and a non-isolated backside, the whole current capability can be used by connecting the backside.

**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

### 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
$\varnothing P$	.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.