

Schottky

High Performance Schottky Diode
Low Loss and Soft Recovery
Single Diode

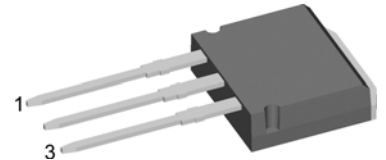
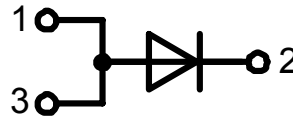
$$V_{RRM} = 45 \text{ V}$$

$$I_{FAV} = 15 \text{ A}$$

$$V_F = 0.55 \text{ V}$$

Part number (Marking on product)

DSB 15 IM 45IB



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
- Low losses

Applications:

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

Package:

- TO-262 (I2Pak)
- Industry standard outline
 - Epoxy meets UL 94V-0
 - RoHS compliant

Ratings

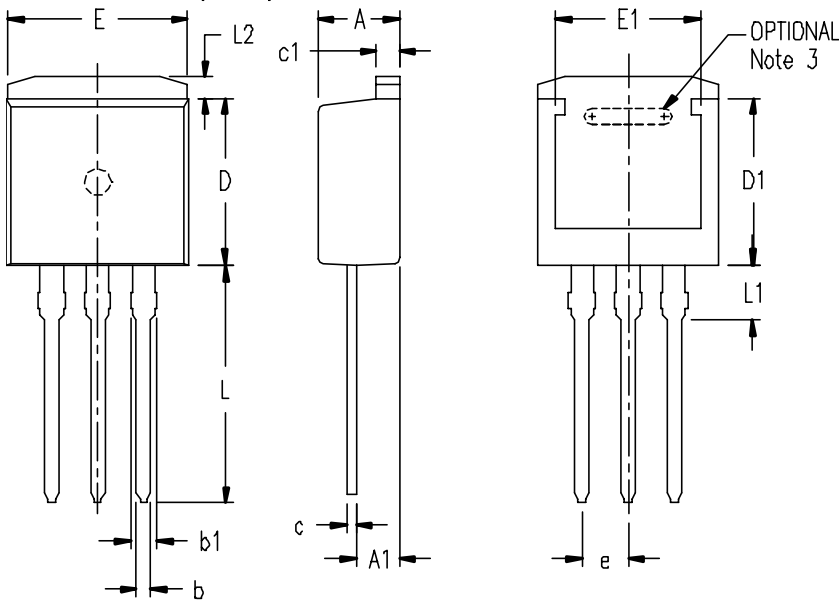
Symbol	Definition	Conditions	Ratings			Unit	
			min.	typ.	max.		
V_{RRM}	max. repetitive reverse voltage	$T_{VJ} = 25 \text{ }^\circ\text{C}$			45	V	
I_R	reverse current	$V_R = 45 \text{ V}$			10	mA	
		$V_R = 45 \text{ V}$			50	mA	
V_F	forward voltage	$I_F = 15 \text{ A}$			0.59	V	
		$I_F = 30 \text{ A}$			0.83	V	
		$I_F = 15 \text{ A}$	$T_{VJ} = 125 \text{ }^\circ\text{C}$			0.55	V
		$I_F = 30 \text{ A}$	$T_{VJ} = 125 \text{ }^\circ\text{C}$			0.80	V
I_{FAV}	average forward current	rectangular, $d = 0.5$			15	A	
V_{F0}	threshold voltage	} for power loss calculation only			0.31	V	
r_F	slope resistance				15.5	m Ω	
R_{thJC}	thermal resistance junction to case				1.75	K/W	
T_{VJ}	virtual junction temperature		-55		150	$^\circ\text{C}$	
P_{tot}	total power dissipation	$T_C = 25 \text{ }^\circ\text{C}$			70	W	
I_{FSM}	max. forward surge current	$t_p = 10 \text{ ms (50 Hz), sine}$			160	A	
C_j	junction capacitance	$V_R = \text{ V}; f = 1 \text{ MHz}$				pF	
E_{AS}	non-repetitive avalanche energy	$I_{AS} = \text{ A}; L = 100 \text{ } \mu\text{H}$			tbd	mJ	
I_{AR}	repetitive avalanche current	$V_A = 1.5 \cdot V_R \text{ typ.}; f = 10 \text{ kHz}$			tbd	A	

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

* 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.

Outlines TO-262 (I2Pak)



SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.160	.190	4.06	4.83
A1	.080	.110	2.03	2.79
b	.025	.035	0.64	0.88
b1	.025	.039	1.14	1.40
c	.018	.025	0.46	0.64
c1	.045	.055	1.14	1.40
D	.340	.380	8.64	9.65
D1	.270	.290	6.86	7.37
E	.380	.405	9.65	10.29
E1	.245	.320	6.22	8.13
e	.100 BSC		2.54 BSC	
L	.500	.560	12.70	14.22
L1	.100	.125	2.54	3.18
L2	.040	.055	1.02	1.40

NOTE:

1. This drawing will meet all dimensions requirement of JEDEC outline TO-262 AA.
2. All metal surface are matte pure tin plated except trimmed area.
3. Inter locking slot depends upon frame type.

