

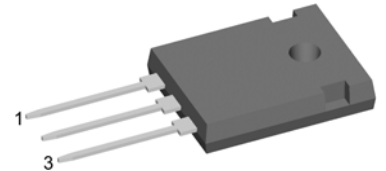
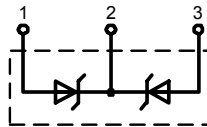
Schottky

High Performance Schottky Diode
 Low Loss and Soft Recovery
 Common Cathode

$V_{RRM} = 45\text{ V}$
 $I_{FAV} = 2 \times 15\text{ A}$
 $V_F = 0.54\text{ V}$

Part number (Marking on product)

DSB 30 C 45HB



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-247AD
- Industry standard outline
 - Epoxy meets UL 94V-0
 - RoHS compliant

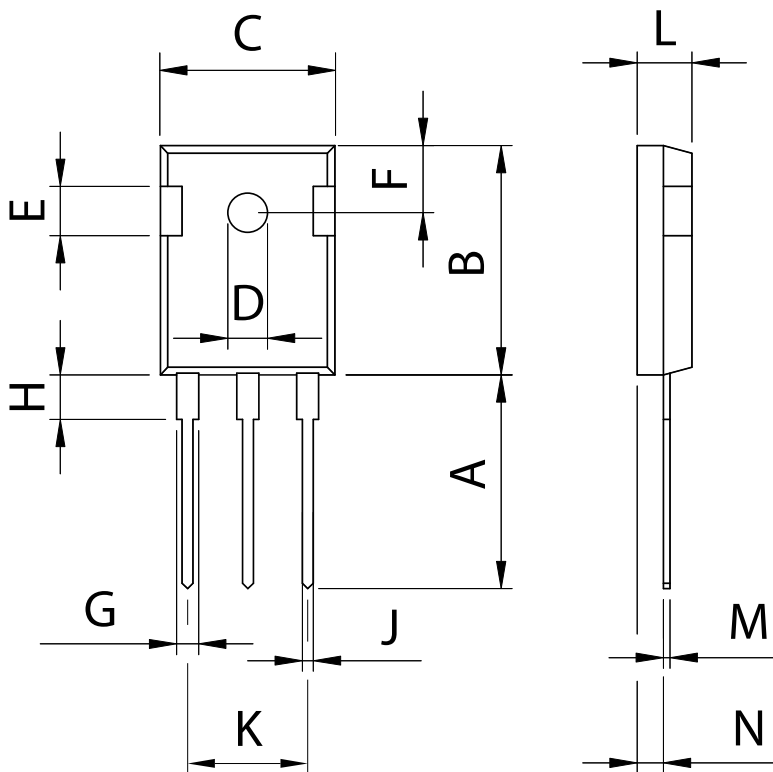
Ratings

Symbol	Definition	Conditions	Ratings			Unit	
			min.	typ.	max.		
V_{RRM}	max. repetitive reverse voltage	$T_{VJ} = 25\text{ °C}$			45	V	
I_R	reverse current	$V_R = 45\text{ V}$			10	mA	
		$V_R = 45\text{ V}$			50	mA	
V_F	forward voltage	$I_F = 15\text{ A}$			0.58	V	
		$I_F = 30\text{ A}$			0.82	V	
		$I_F = 15\text{ A}$	$T_{VJ} = 125\text{ °C}$			0.54	V
		$I_F = 30\text{ A}$	$T_{VJ} = 125\text{ °C}$			0.78	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				14.9	m Ω	
R_{thJC}	thermal resistance junction to case				1.75	K/W	
T_{VJ}	virtual junction temperature		-55		150	°C	
P_{tot}	total power dissipation	$T_C = 25\text{ °C}$			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	$V_A = 1.5 \cdot V_R$ typ.; $f = 10\text{ kHz}$			tbd	A	

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
I_{RMS}	RMS current	per pin*			50	A
R_{thCH}	thermal resistance case to heatsink			0.25		K/W
M_D	mounting torque		0.8		1.2	Nm
F_c	mounting force with clip		20		120	N
T_{stg}	storage temperature		-55		150	°C
Weight				6		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-247AD


Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.610	0.640
D	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102