

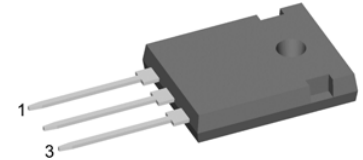
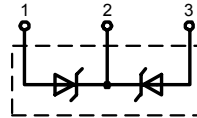
## Schottky

High Performance Schottky Diode  
Low Loss and Soft Recovery  
Common Cathode

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

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

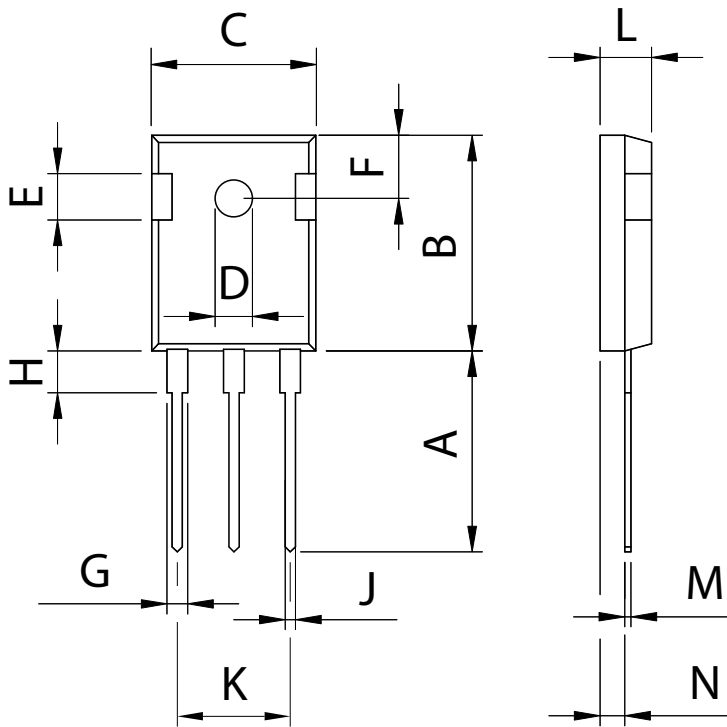
- Industry standard outline
- Epoxy meets UL 94V-0
- RoHS compliant

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	$I_F = 15\text{ A}$			0.58	V	
		$I_F = 30\text{ A}$			0.82	V	
		$I_F = 15\text{ A}$	$T_{VJ} = 125\text{ }^\circ\text{C}$			0.54	V
		$I_F = 30\text{ A}$	$T_{VJ} = 125\text{ }^\circ\text{C}$			0.78	V
$I_{FAV}$	average forward current	rectangular, $d = 0.5$			15	A	
$V_{FO}$	threshold voltage	for power loss calculation only			0.31	V	
$r_F$	slope resistance						$T_{VJ} = 150\text{ }^\circ\text{C}$
$R_{thJC}$	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	$V_A = 1.5 \cdot V_R$ 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
<b>Weight</b>				6		g

\* Irms 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