

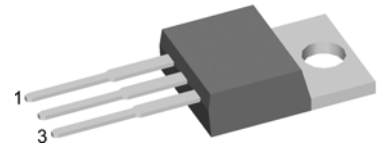
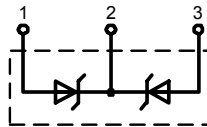
# Schottky

High Performance Schottky Diode  
 Low Loss and Soft Recovery  
 Common Cathode

$V_{RRM} = 45\text{ V}$   
 $I_{FAV} = 2 \times 15\text{ A}$   
 $V_F = 0.55\text{ V}$

Part number (Marking on product)

**DSB 30 C 45PB**



### 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-220AB
- Industry standard outline
  - Epoxy meets UL 94V-0
  - RoHS compliant

### Ratings

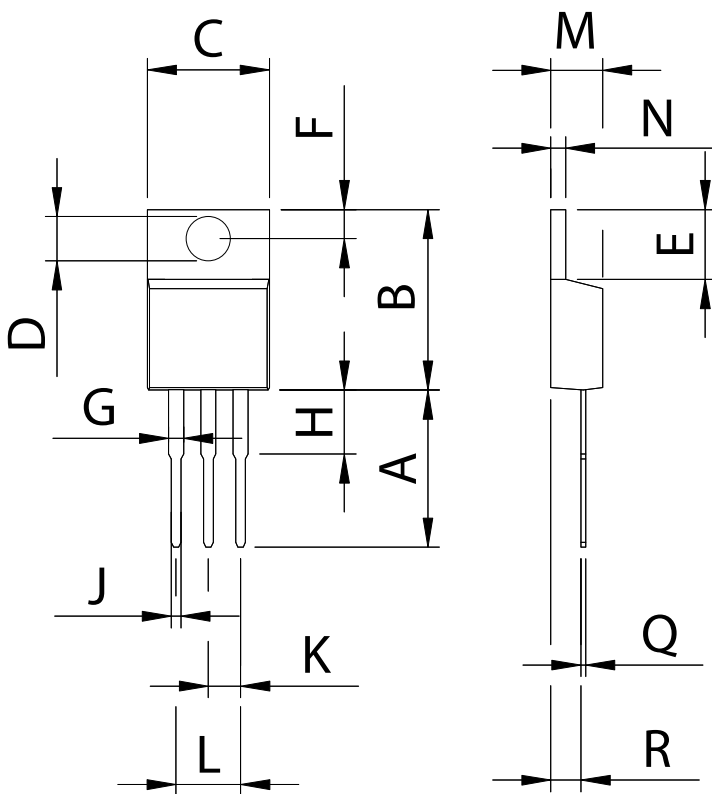
Symbol	Definition	Conditions	Ratings			Unit	
			min.	typ.	max.		
$V_{RRM}$	max. repetitive reverse voltage	$T_{VJ} = 25\text{ °C}$			45	V	
$I_R$	reverse current	$V_R = 45\text{ V}$			10	mA	
		$V_R = 45\text{ V}$			50	mA	
$V_F$	forward voltage	$I_F = 15\text{ A}$			0.59	V	
		$I_F = 30\text{ A}$			0.83	V	
		$I_F = 15\text{ A}$	$T_{VJ} = 125\text{ °C}$			0.55	V
		$I_F = 30\text{ A}$	$T_{VJ} = 125\text{ °C}$			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 $\Omega$	
$R_{thJC}$	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*			35	A
$R_{thCH}$	thermal resistance case to heatsink			0.50		K/W
$M_D$	mounting torque		0.4		0.6	Nm
$F_c$	mounting force with clip		20		60	N
$T_{stg}$	storage temperature		-55		150	°C
<b>Weight</b>				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-220AB



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	13.97	0.500	0.550
B	14.73	16.00	0.580	0.630
C	9.91	10.66	0.390	0.420
D	3.54	4.08	0.139	0.161
E	5.85	6.85	0.230	0.270
F	2.54	3.18	0.100	0.125
G	1.15	1.65	0.045	0.065
H	2.79	5.84	0.110	0.230
J	0.64	1.01	0.025	0.040
K	2.54	BSC	0.100	BSC
M	4.32	4.82	0.170	0.190
N	1.14	1.39	0.045	0.055
Q	0.35	0.56	0.014	0.022
R	2.29	2.79	0.090	0.110