

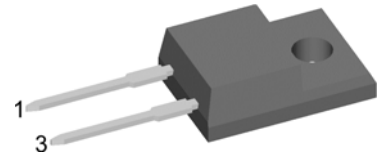
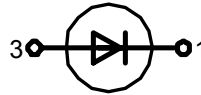
# Schottky

High Performance Schottky Diode  
 Low Loss and Soft Recovery  
 Common Cathode

$V_{RRM} = 45\text{ V}$   
 $I_{FAV} = 10\text{ A}$   
 $V_F = 0.53\text{ V}$

Part number (Marking on product)

**DSB 10 I 45PM**



### 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-220FPAB
- Industry standard outline
  - Plastic overmolded tab for electrical isolation
  - 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	$V_R = 45\text{ V}$			6	mA	
		$V_R = 45\text{ V}$			30	mA	
$V_F$	forward voltage	$I_F = 10\text{ A}$			0.58	V	
		$I_F = 20\text{ A}$			0.81	V	
		$I_F = 10\text{ A}$	$T_{VJ} = 125\text{ °C}$			0.53	V
		$I_F = 20\text{ A}$	$T_{VJ} = 125\text{ °C}$			0.77	V
$I_{FAV}$	average forward current	rectangular, $d = 0.5$			10	A	
$V_{F0}$	threshold voltage	} for power loss calculation only			0.31	V	
$r_F$	slope resistance				22	m $\Omega$	
$R_{thJC}$	thermal resistance junction to case				4.50	K/W	
$T_{VJ}$	virtual junction temperature		-55		150	°C	
$P_{tot}$	total power dissipation	$T_C = 25\text{ °C}$			30	W	
$I_{FSM}$	max. forward surge current	$t_p = 10\text{ ms (50 Hz), sine}$			110	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<sub>rms</sub> 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-220FPAB

