

Schottky

High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

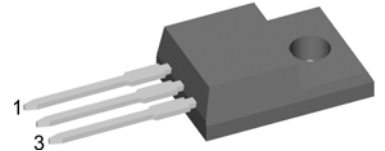
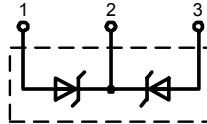
$$V_{RRM} = 60 \text{ V}$$

$$I_{FAV} = 2 \times 10 \text{ A}$$

$$V_F = 0.63 \text{ V}$$

Part number (Marking on product)

DSB 20 C 60PN



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

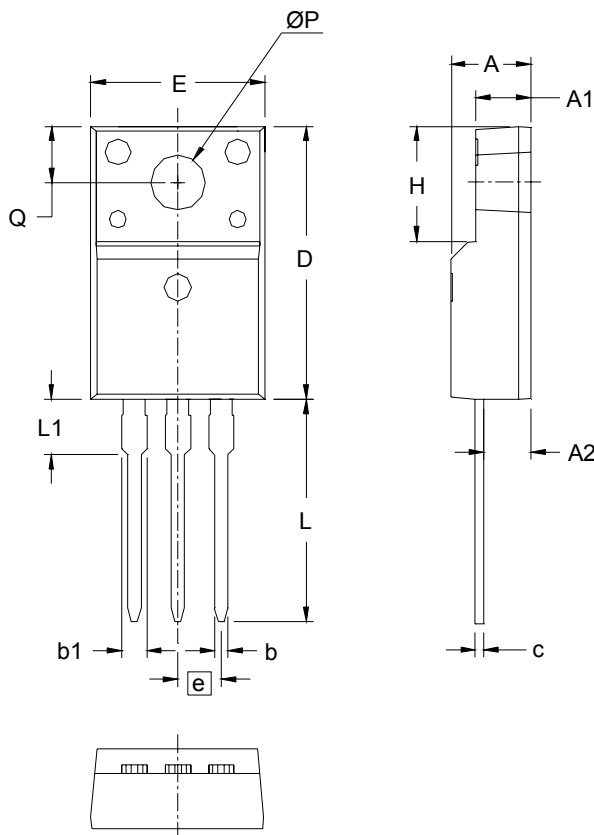
Symbol	Definition	Conditions	Ratings			Unit	
			min.	typ.	max.		
V_{RRM}	max. repetitive reverse voltage	$T_{VJ} = 25 \text{ }^\circ\text{C}$			60	V	
I_R	reverse current	$V_R = 60 \text{ V}$			6	mA	
		$V_R = 60 \text{ V}$			30	mA	
V_F	forward voltage	$I_F = 10 \text{ A}$			0.73	V	
		$I_F = 20 \text{ A}$			1.11	V	
		$I_F = 10 \text{ A}$	$T_{VJ} = 125 \text{ }^\circ\text{C}$			0.63	V
		$I_F = 20 \text{ A}$	$T_{VJ} = 125 \text{ }^\circ\text{C}$			0.87	V
I_{FAV}	average forward current	rectangular, $d = 0.5$			10	A	
V_{F0}	threshold voltage	} for power loss calculation only			0.46	V	
r_F	slope resistance				14.5	m Ω	
R_{thJC}	thermal resistance junction to case				4.50	K/W	
T_{VJ}	virtual junction temperature		-55		150	$^\circ\text{C}$	
P_{tot}	total power dissipation	$T_C = 25 \text{ }^\circ\text{C}$			30	W	
I_{FSM}	max. forward surge current	$t_p = 10 \text{ ms (50 Hz), sine}$			100	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		0.4		0.6	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-220FPAB



SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.177	.193	4.50	4.90
A1	.092	.108	2.34	2.74
A2	.101	.117	2.56	2.96
b	.028	.035	0.70	0.90
b1	.050	.058	1.27	1.47
c	.018	.024	0.45	0.60
D	.617	.633	15.67	16.07
E	.392	.408	9.96	10.36
e	.100 BSC		2.54 BSC	
H	.255	.271	6.48	6.88
L	.499	.523	12.68	13.28
L1	.119	.135	3.03	3.43
ØP	.121	.129	3.08	3.28
Q	.126	.134	3.20	3.40