

Schottky

High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

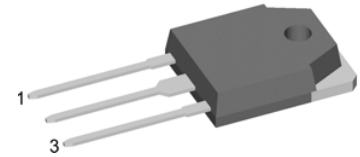
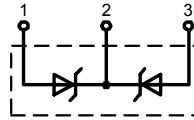
$$V_{RRM} = 100 \text{ V}$$

$$I_{FAV} = 2 \times 15 \text{ A}$$

$$V_F = 0.72 \text{ V}$$

Part number

DSA 30 C 100QB



Backside: cathode

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-3P

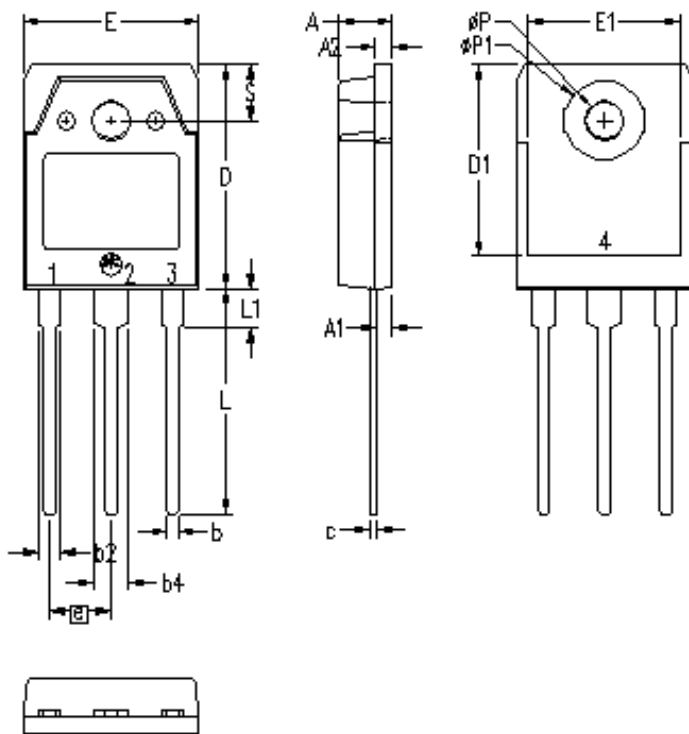
- Industry standard outline - compatible with TO-247
- Epoxy meets UL 94V-0
- RoHS compliant

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
V_{RRM}	max. repetitive reverse voltage	$T_{VJ} = 25 \text{ }^\circ\text{C}$			100	V
I_R	reverse current	$V_R = 100 \text{ V}$			0.3	mA
		$V_R = 100 \text{ V}$			2.5	mA
V_F	forward voltage	$I_F = 15 \text{ A}$			0.91	V
		$I_F = 30 \text{ A}$			1.06	V
		$I_F = 15 \text{ A}$			0.72	V
		$I_F = 30 \text{ A}$			0.90	V
I_{FAV}	average forward current	rectangular, $d = 0.5$			15	A
V_{FO}	threshold voltage	} for power loss calculation only			0.46	V
r_F	slope resistance					
R_{thJC}	thermal resistance junction to case				1.75	K/W
T_{VJ}	virtual junction temperature		-55		175	$^\circ\text{C}$
P_{tot}	total power dissipation	$T_C = 25 \text{ }^\circ\text{C}$			85	W
I_{FSM}	max. forward surge current	$t_p = 10 \text{ ms (50 Hz), sine}$			120	A
C_J	junction capacitance	$V_R = \text{tbd V}; f = 1 \text{ MHz}$		tbd		pF
E_{AS}	non-repetitive avalanche energy	$I_{AS} = 5 \text{ A}; L = 100 \text{ } \mu\text{H}$			1.3	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				5		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-3P


SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.185	.193	4.70	4.90
A1	.051	.059	1.30	1.50
A2	.057	.065	1.45	1.65
b	.035	.045	0.90	1.15
b2	.075	.087	1.90	2.20
b4	.114	.126	2.90	3.20
c	.022	.031	0.55	0.80
D	.780	.791	19.80	20.10
D1	.665	.677	16.90	17.20
E	.610	.622	15.50	15.80
E1	.531	.539	13.50	13.70
e	.215 BSC		5.45 BSC	
L	.779	.795	19.80	20.20
L1	.134	.142	3.40	3.60
ØP	.126	.134	3.20	3.40
ØP1	.272	.280	6.90	7.10
S	.193	.201	4.90	5.10

All metal areas are tin plated