advanced

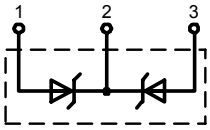
Schottky

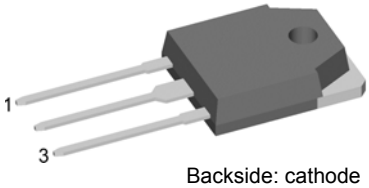
V_{RRM} = 100 V
I_{FAV} = 2x 15 A
V_F = 0.72 V

High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

Part number

DSA 30 C 100QB





Backside: cathode

Features / Advantages:

- Very low Vf
- Extremely low switching losses
- Low Irm-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

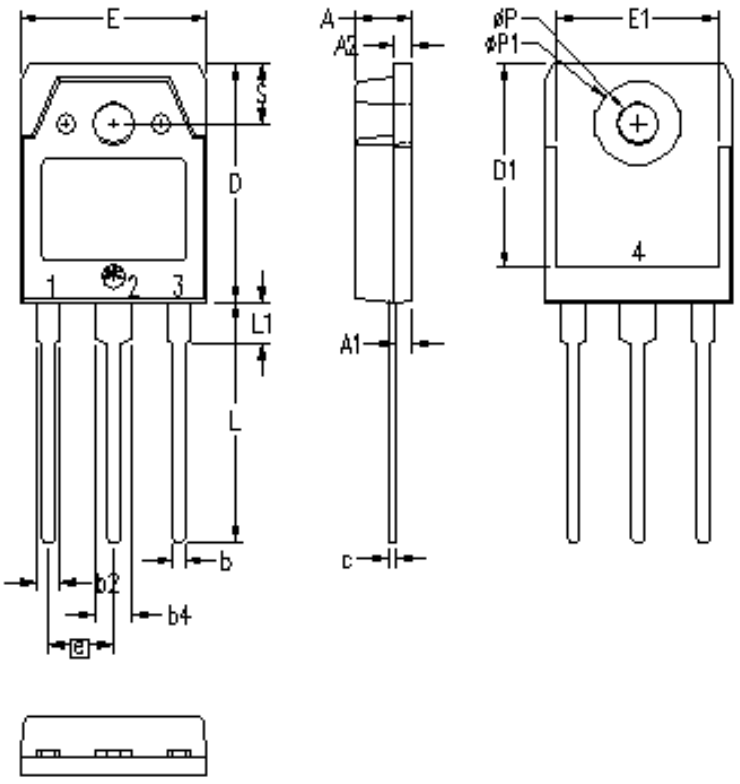
Symbol	Definition	Conditions		Ratings min.	typ.	max.	Unit
V_{RRM}	*max. repetitive reverse voltage*		T_{VJ} = 25 °C			100	V
I_R	*reverse current*	V_R = 100 V	T_{VJ} = 25 °C			0.3	mA
		V_R = 100 V	T_{VJ} = 125 °C			2.5	mA
V_F	*forward voltage*	I_F = 15 A	T_{VJ} = 25 °C			0.91	V
		I_F = 30 A				1.06	V
		I_F = 15 A	T_{VJ} = 125 °C			0.72	V
		I_F = 30 A				0.90	V
I_{FAV}	*average forward current*	rectangular, d = 0.5	T_C = 150 °C			15	A
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 175 °C			0.46	V
r_F	*slope resistance* }					11.7	mΩ
R_{thJC}	*thermal resistance junction to case*					1.75	K/W
T_{VJ}	*virtual junction temperature*			-55		175	°C
P_{tot}	*total power dissipation*		T_C = 25 °C			85	W
I_{FSM}	*max. forward surge current*	t_p = 10 ms (50 Hz), sine	T_{VJ} = 45 °C			120	A
C_J	*junction capacitance*	V_R = tbd V; f = 1 MHz	T_{VJ} = 25 °C		tbd		pF
E_{AS}	*non-repetitive avalanche energy*	I_{AS} = 5A; L = 100 µH	T_{VJ} = 25 °C			1.3	mJ
I_{AR}	*repetitive avalanche current*	$V_A = 1.5 \cdot V_R$ typ.; f = 10 kHz				tbd	A

advanced

Symbol	Definition	Conditions	Ratings min.	typ.	max.	Unit
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

* 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-3P



SYM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS 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