

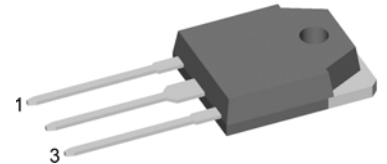
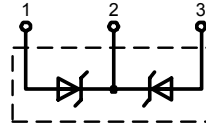
# Schottky

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

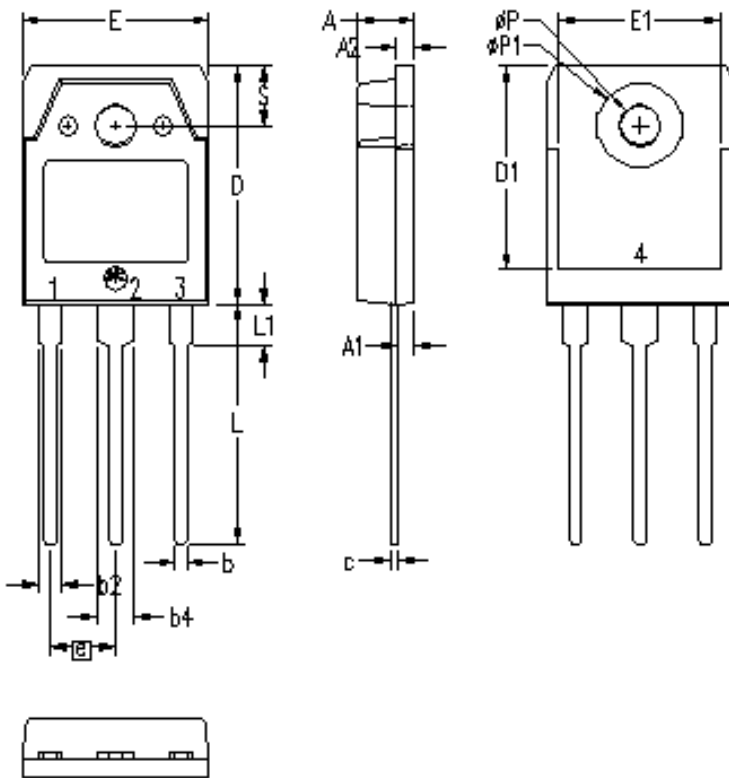
### Ratings

Symbol	Definition	Conditions	Ratings			Unit	
			min.	typ.	max.		
$V_{RRM}$	max. repetitive reverse voltage	$T_{VJ} = 25\text{ °C}$			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	
		$I_F = 15\text{ A}$	$T_{VJ} = 125\text{ °C}$			0.72	V
		$I_F = 30\text{ A}$	$T_{VJ} = 125\text{ °C}$			0.90	V
$I_{FAV}$	average forward current	rectangular, $d = 0.5$			15	A	
$V_{F0}$	threshold voltage	} for power loss calculation only			0.46	V	
$r_F$	slope resistance				11.7	m $\Omega$	
$R_{thJC}$	thermal resistance junction to case				1.75	K/W	
$T_{VJ}$	virtual junction temperature		-55		175	°C	
$P_{tot}$	total power dissipation	$T_C = 25\text{ °C}$			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			
			min.	typ.	max.	Unit
$I_{RMS}$	RMS current	per pin*			50	A
$R_{thCH}$	thermal resistance case to heatsink			0.25		K/W
$M_b$	mounting torque		0.8		1.2	Nm
$F_c$	mounting force with clip		20		120	N
$T_{stg}$	storage temperature		-55		150	°C
<b>Weight</b>				5		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-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
$\phi P$	.126	.134	3.20	3.40
$\phi P1$	.272	.280	6.90	7.10
S	.193	.201	4.90	5.10

All metal areas are tin plated