

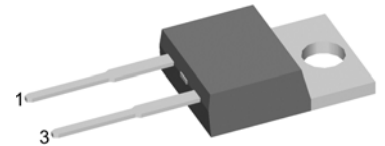
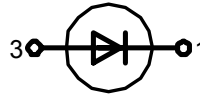
Schottky

High Performance Schottky Diode
 Low Loss and Soft Recovery
 Single Diode

$V_{RRM} = 45\text{ V}$
 $I_{FAV} = 15\text{ A}$
 $V_F = 0.63\text{ V}$

Part number

DSA 15 I 45PA



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-220AC
- Industry standard outline
 - Epoxy meets UL 94V-0
 - RoHS compliant

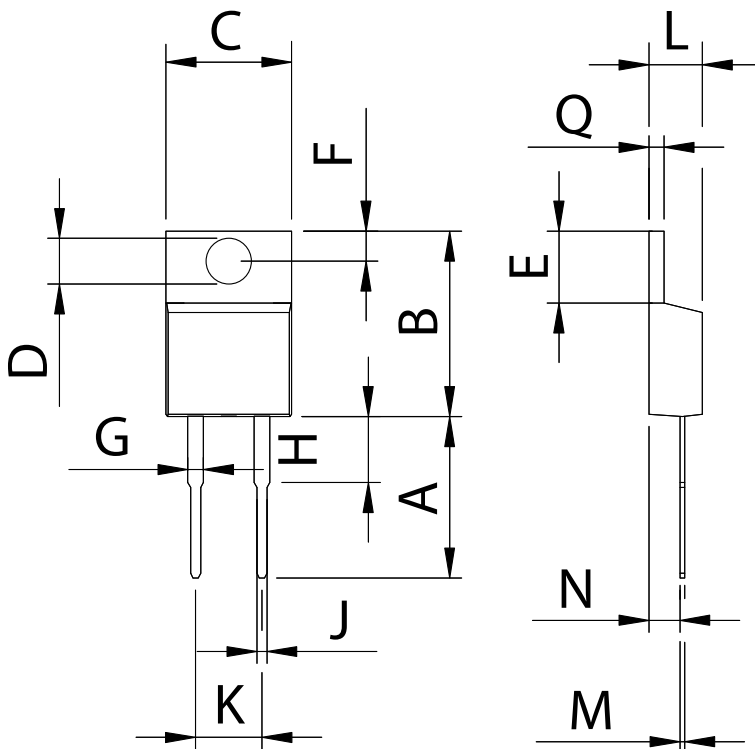
Ratings

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	$V_R = 45\text{ V}$			0.3	mA	
		$V_R = 45\text{ V}$			2.5	mA	
V_F	forward voltage	$I_F = 15\text{ A}$			0.75	V	
		$I_F = 30\text{ A}$			0.91	V	
		$I_F = 15\text{ A}$	$T_{VJ} = 125\text{ °C}$			0.63	V
		$I_F = 30\text{ A}$	$T_{VJ} = 125\text{ °C}$			0.79	V
I_{FAV}	average forward current	rectangular, $d = 0.5$			15	A	
V_{F0}	threshold voltage	} for power loss calculation only			0.42	V	
r_F	slope resistance				9.9	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	$T_C = 25\text{ °C}$			85	W	
I_{FSM}	max. forward surge current	$t_p = 10\text{ ms (50 Hz), sine}$			140	A	
C_J	junction capacitance	$V_R = \text{tbd V}; f = 1\text{ MHz}$		tbd		pF	
E_{AS}	non-repetitive avalanche energy	$I_{AS} = \text{tbd A}; L = 100\text{ μH}$			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_b	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-220AC


Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	14.73	0.500	0.580
B	14.23	16.51	0.560	0.650
C	9.66	10.66	0.380	0.420
D	3.54	4.08	0.139	0.161
E	5.85	6.85	2.300	0.420
F	2.54	3.42	0.100	0.135
G	1.15	1.77	0.045	0.070
H	-	6.35	-	0.250
J	0.64	0.89	0.025	0.035
K	4.83	5.33	0.190	0.210
L	3.56	4.82	0.140	0.190
M	0.51	0.76	0.020	0.030
N	2.04	2.49	0.080	0.115
Q	0.64	1.39	0.025	0.055