

Schottky Diode

High Performance Schottky Diode
 Low Loss and Soft Recovery
 Common Cathode

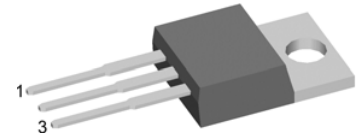
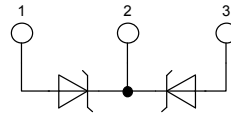
$$V_{RRM} = 100 \text{ V}$$

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

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

Part number

DSA 20 C 100 PB



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

Applications:

- Rectifiers in switch mode power supplies (SMPS)
- Free wheeling diode in low voltage converters

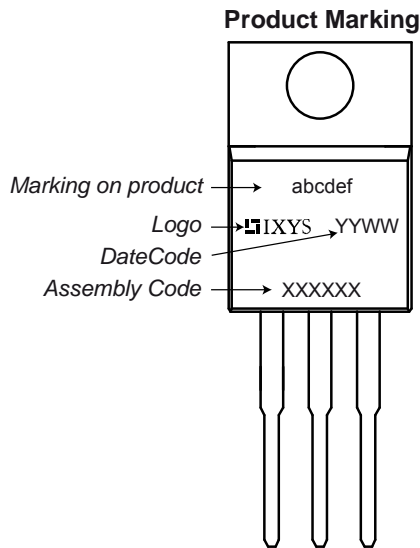
Package:

- Housing: TO-220
- Industry standard outline
- Epoxy meets UL 94V-0
- RoHS compliant

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
V_{RRM}	max. repetitive reverse voltage				100	V
I_R	reverse current	$V_R = 100\text{V}$			0.2	μA
		$V_R = 100\text{V}$			2	mA
V_F	forward voltage	$I_F = 10\text{A}$			0.90	V
		$I_F = 20\text{A}$			1.50	V
		$I_F = 10\text{A}$			0.72	V
		$I_F = 20\text{A}$			0.88	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				17	$\text{m}\Omega$
R_{thJC}	thermal resistance junction to case				2.40	K/W
T_{VJ}	virtual junction temperature		-55		175	$^{\circ}\text{C}$
P_{tot}	total power dissipation				62	W
I_{FSM}	max. forward surge current	$t = 10 \text{ ms}$ (50 Hz), sine			220	A
C_J	junction capacitance	$V_R = \text{tbd V}$; $f = 1 \text{ MHz}$		tbd		pF

Symbol	Definition	Conditions	Ratings			Unit
			min.	typ.	max.	
I_{RMS}	RMS current	per pin ¹⁾			35	A
R_{thCH}	thermal resistance case to heatsink			0.50		K/W
T_{stg}	storage temperature		-55		150	°C
Weight				2		g
M_D	mounting torque		0.4		0.8	Nm
F_C	mounting force with clip		20		60	N

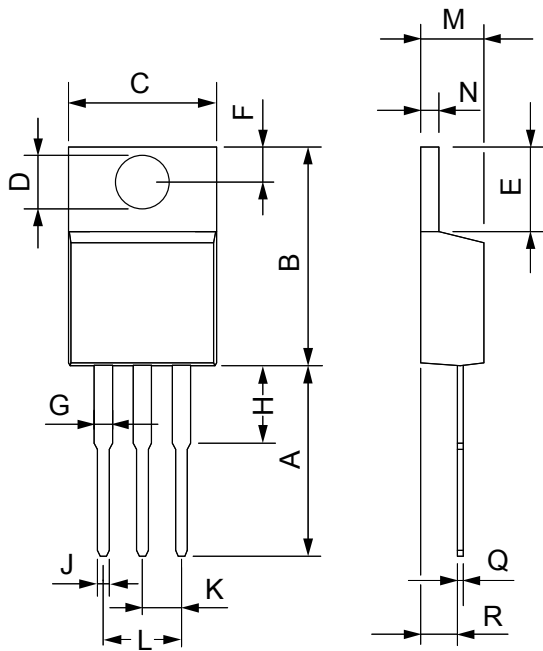
¹⁾ I_{RMS} is typically limited by: 1. pin-to-chip resistance; or by 2. current capability of the chip.
 In case of 1, a common cathode/anode configuration and a non-isolated backside, the whole current capability can be used by connecting the backside.


Part number

D = Diode
 S = Schottky Diode
 A = low VF
 20 = Current Rating [A]
 C = Common Cathode
 100 = Reverse Voltage [V]
 PB = TO-220AB (3)

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	DSA 20 C 100 PB	DSA20C100PB	Tube	50	503509

Similar Part	Package	Voltage class
DSA20C100PN	TO-220FP	100
DSSK20-015A	TO-220	150
DSA20C60PN	TO-220FP	60
DSSK20-0045A	TO-220	45

Outlines TO-220


Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	13.97	0.500	0.550
B	14.73	16.00	0.580	0.630
C	9.91	10.66	0.390	0.420
D	3.54	4.08	0.139	0.161
E	5.85	6.85	0.230	0.270
F	2.54	3.18	0.100	0.125
G	1.15	1.65	0.045	0.065
H	2.79	5.84	0.110	0.230
J	0.64	1.01	0.025	0.040
K	2.54	BSC	0.100	BSC
M	4.32	4.82	0.170	0.190
N	1.14	1.39	0.045	0.055
Q	0.35	0.56	0.014	0.022
R	2.29	2.79	0.090	0.110