



preliminary

Schottky Diode

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

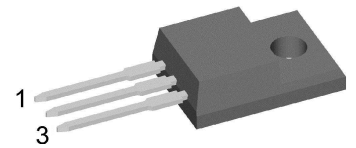
$$I_{FAV} = 2 \times 10\text{ A}$$

$$V_F = 0.71\text{ V}$$

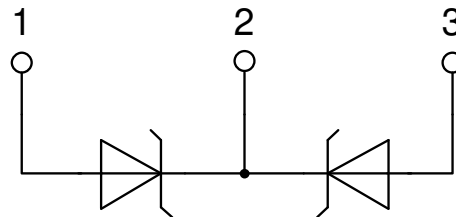
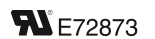
High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

Part number

DSA20C100PN



Backside: isolated



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: TO-220FP

- Isolation Voltage: 2500 V~
- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Soldering pins for PCB mounting
- Base plate: Plastic overmolded tab
- Reduced weight

Disclaimer Notice

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.

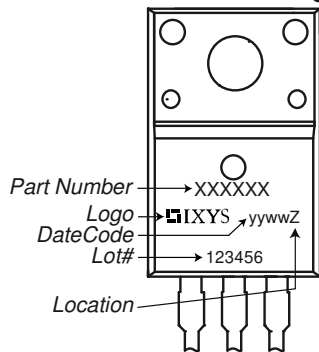


Schottky				Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
V_{RSM}	max. non-repetitive reverse blocking voltage					100	V
V_{RRM}	max. repetitive reverse blocking voltage					100	V
I_R	reverse current, drain current	$V_R = 100\text{ V}$		$T_{VJ} = 25^\circ\text{C}$		200	μA
		$V_R = 100\text{ V}$		$T_{VJ} = 125^\circ\text{C}$		2	mA
V_F	forward voltage drop	$I_F = 10\text{ A}$		$T_{VJ} = 25^\circ\text{C}$		0.89	V
		$I_F = 20\text{ A}$				1.04	V
		$I_F = 10\text{ A}$		$T_{VJ} = 125^\circ\text{C}$		0.71	V
		$I_F = 20\text{ A}$				0.87	V
I_{FAV}	average forward current	$T_C = 140^\circ\text{C}$	rectangular	$T_{VJ} = 175^\circ\text{C}$		10	A
V_{F0}	threshold voltage	} for power loss calculation only		$T_{VJ} = 175^\circ\text{C}$		0.45	V
r_F	slope resistance					16.1	m Ω
R_{thJC}	thermal resistance junction to case					4.5	K/W
R_{thCH}	thermal resistance case to heatsink				0.5		K/W
P_{tot}	total power dissipation			$T_C = 25^\circ\text{C}$		35	W
I_{FSM}	max. forward surge current	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}; V_R = 0\text{ V}$		$T_{VJ} = 45^\circ\text{C}$		240	A
C_J	junction capacitance	$V_R = 12\text{ V}$	$f = 1\text{ MHz}$	$T_{VJ} = 25^\circ\text{C}$		96	pF



Package TO-220FP		Ratings				
Symbol	Definition	Conditions	min.	typ.	max.	Unit
I_{RMS}	RMS current	per terminal			35	A
T_{VJ}	virtual junction temperature		-55		175	°C
T_{op}	operation temperature		-55		150	°C
T_{stg}	storage temperature		-55		150	°C
Weight				2		g
M_D	mounting torque		0.4		0.6	Nm
F_C	mounting force with clip		20		60	N
$d_{Spp/App}$	creepage distance on surface striking distance through air	terminal to terminal	1.6	1.0		mm
$d_{Spb/Apb}$		terminal to backside	2.5	2.5		mm
V_{ISOL}	isolation voltage	t = 1 second	2500			V
		t = 1 minute	2100			V

Product Marking



Part description

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

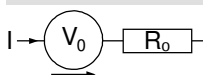
Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSA20C100PN	DSA20C100PN	Tube	50	503516

Similar Part	Package	Voltage class
DSA20C100PB	TO-220AB (3)	100

Equivalent Circuits for Simulation

* on die level

$T_{VJ} = 175^{\circ}\text{C}$

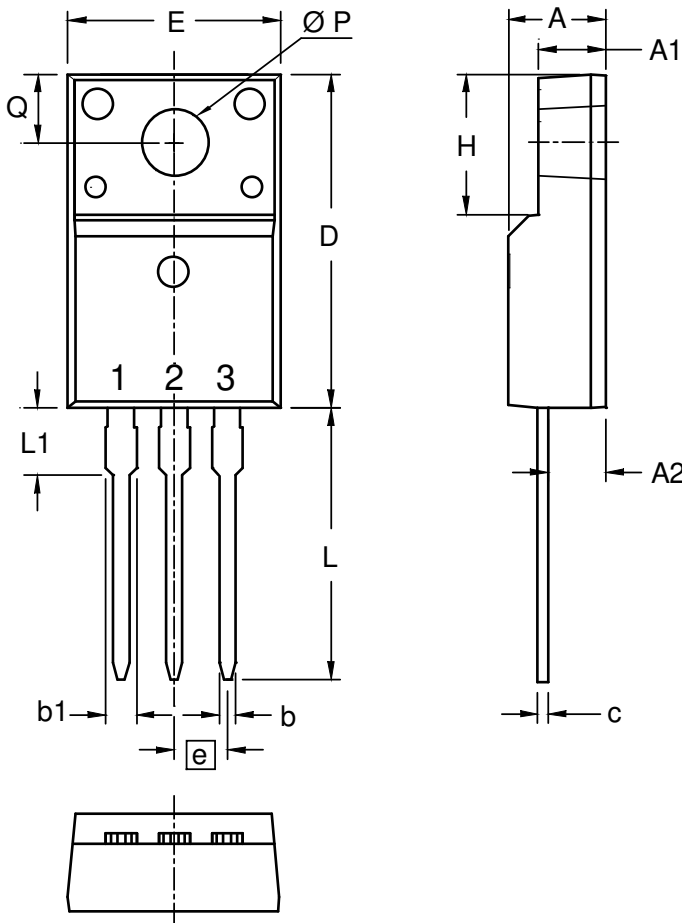


Schottky

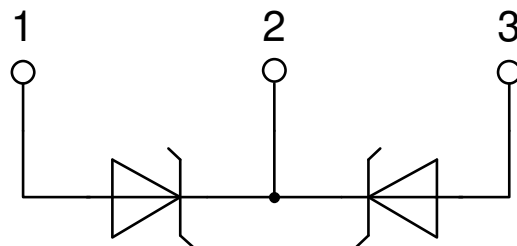
$V_{0\ max}$	threshold voltage	0.45	V
$R_{0\ max}$	slope resistance *	12.9	mΩ



Outlines TO-220FP



Dim.	Millimeters		Inches	
	min	max	min	max
A	4.50	4.90	0.177	0.193
A1	2.34	2.74	0.092	0.108
A2	2.56	2.96	0.101	0.117
b	0.70	0.90	0.028	0.035
c	0.45	0.60	0.018	0.024
D	15.67	16.07	0.617	0.633
E	9.96	10.36	0.392	0.408
e	2.54 BSC		0.100 BSC	
H	6.48	6.88	0.255	0.271
L	12.68	13.28	0.499	0.523
L1	3.03	3.43	0.119	0.135
ØP	3.08	3.28	0.121	0.129
Q	3.20	3.40	0.126	0.134



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[IXYS:](#)

[DSA20C100PN](#)