



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Schottky Diode Gen ²

preliminary

$$V_{RRM} = 150V$$

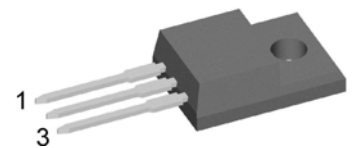
$$I_{FAV} = 2 \times 10A$$

$$V_F = 0.73V$$


High Performance Schottky Diode
Low Loss and Soft Recovery
Common Cathode

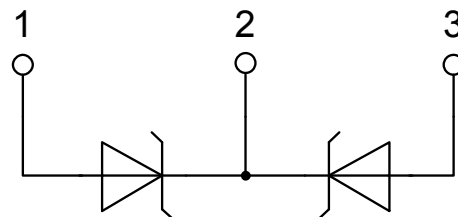
Part number

DSA20C150PN



Backside: isolated

 E72873



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

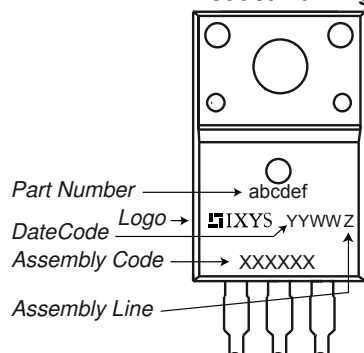
- Isolation Voltage: 2500 V~
- Industry standard outline
- RoHS compliant
- Epoxy meets UL 94V-0
- Soldering pins for PCB mounting
- Base plate: Plastic overmolded tab
- Reduced weight

Schottky				Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
V_{RSM}	max. non-repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}\text{C}$				150	V
V_{RRM}	max. repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}\text{C}$				150	V
I_R	reverse current, drain current	$V_R = 150\text{ V}$	$T_{VJ} = 25^{\circ}\text{C}$			200	μA
		$V_R = 150\text{ V}$	$T_{VJ} = 125^{\circ}\text{C}$			2	mA
V_F	forward voltage drop	$I_F = 10\text{ A}$	$T_{VJ} = 25^{\circ}\text{C}$			0.87	V
		$I_F = 20\text{ A}$				0.98	V
		$I_F = 10\text{ A}$	$T_{VJ} = 125^{\circ}\text{C}$			0.73	V
		$I_F = 20\text{ A}$				0.85	V
I_{FAV}	average forward current	$T_C = 140^{\circ}\text{C}$ rectangular $d = 0.5$	$T_{VJ} = 175^{\circ}\text{C}$			10	A
V_{F0}	threshold voltage	} for power loss calculation only		$T_{VJ} = 175^{\circ}\text{C}$		0.54	V
r_F	slope resistance					11.4	m Ω
R_{thJC}	thermal resistance junction to case					4.5	K/W
R_{thCH}	thermal resistance case to heatsink				0.50		K/W
P_{tot}	total power dissipation	$T_C = 25^{\circ}\text{C}$				35	W
I_{FSM}	max. forward surge current	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}; V_R = 0\text{ V}$	$T_{VJ} = 45^{\circ}\text{C}$			220	A
C_J	junction capacitance	$V_R = 24\text{ V}$ $f = 1\text{ MHz}$	$T_{VJ} = 25^{\circ}\text{C}$		53		pF

preliminary

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	50/60 Hz, RMS; $I_{ISOL} \leq 1$ mA	2500			V
		t = 1 minute		2080			V

Product Marking



Part number

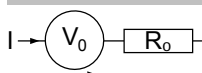
D = Diode
 S = Schottky Diode
 A = low VF
 20 = Current Rating [A]
 C = Common Cathode
 150 = Reverse Voltage [V]
 PN = TO-220ABFP (3)

Ordering	Part Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	DSA20C150PN	DSA20C150PN	Tube	50	503682

Similar Part	Package	Voltage class
DSA20C150PB	TO-220AB (3)	150

Equivalent Circuits for Simulation

* on die level

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

Schottky

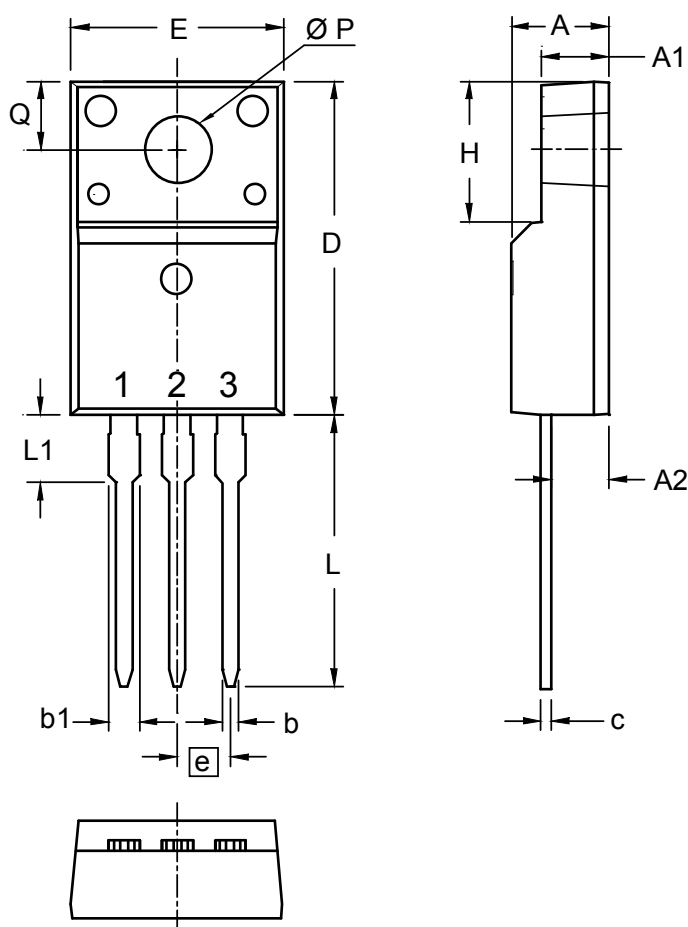
 $V_{0\max}$ threshold voltage 0.54

V

 $R_{0\max}$ slope resistance * 8.2

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
Ø P	3.08	3.28	0.121	0.129
Q	3.20	3.40	0.126	0.134

