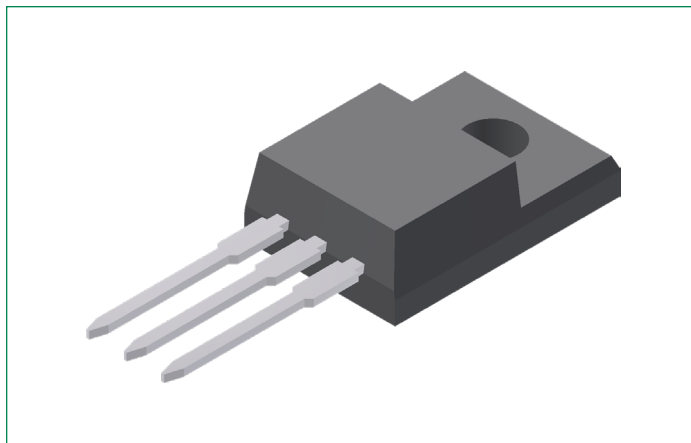


DSA20C150PN

150 V, 2x 10 A Schottky Rectifier Diode

RoHS



Features

- Very low V_F
- Extremely low switching losses
- Low I_{RM} values
- Improved thermal behavior
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Terminals finish: 100% Pure Tin
- Epoxy meets UL 94V-0
- Isolation Voltage: $V \sim 2500$
- Soldering pins for PCB mounting
- Base plate: Plastic over molded tab

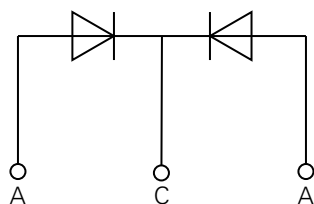
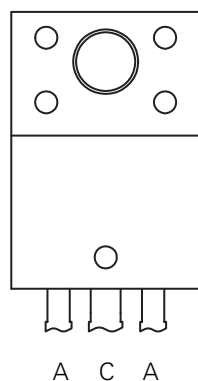
Applications

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

Product Summary

Characteristic	Value	Unit
V_{RRM}	150	V
I_{FAV}	2 x 10	A
V_F	0.73	V

Pinout Diagram (TO-220 ABFP)



A: Anode; **C:** Cathode

Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Characteristics	Condition	Max.	Units
V_{RRM}	Peak Repetitive Reverse Voltage	—	150	V
V_{RWM}	Working Peak Reverse Voltage			
V_R	DC Blocking Voltage			
I_{FAV}	Average Rectified Forward Current	50% duty cycle @ $T_C = 140^\circ\text{C}$, rectangular wave form	10 (Per Leg)	A
			20 (Per Device)	
I_{FSM}	Peak One Cycle Non-Repetitive Surge Current (Per Leg)	10 ms, Half Sine pulse, $T_{VJ} = 25^\circ\text{C}$	220	A
P_{tot}	Total power dissipation	$T_C = 25^\circ\text{C}$	33	W

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Characteristics	Conditions	Min.	Typ.	Max.	Units
V_{F1}	Forward Voltage Drop (Per Leg) ¹	@ 10 A, Pulse, $T_{VJ} = 25^\circ\text{C}$	—	—	0.87	V
V_{F2}		@ 10 A, Pulse, $T_{VJ} = 125^\circ\text{C}$	—	—	0.73	V
I_{R1}	Reverse Current (Per Leg)*	@ $V_R = \text{rated } V_R$, $T_{VJ} = 25^\circ\text{C}$	—	—	200	μA
I_{R2}		@ $V_R = \text{rated } V_R$, $T_{VJ} = 125^\circ\text{C}$	—	—	2	mA
C_T	Junction Capacitance (Per Leg)	@ $V_R = 24\text{ V}$, $T_C = 25^\circ\text{C}$, $f_{SIG} = 1\text{ MHz}$	—	112	—	pF
V_{ISO}	Isolation Voltage	$t = 1\text{ second}$, 50/60 Hz, RMS; $I_{ISOL} \leq 1\text{ mA}$	2500	—	—	V
		$t = 1\text{ minute}$, 50/60 Hz, RMS; $I_{ISOL} \leq 1\text{ mA}$	2100	—	—	

Note 1: Pulse width < 300 μs , duty cycle < 2%**Thermal-Mechanical Specifications**

Symbol	Characteristics	Condition	Specification	Units
T_{VJ}	Junction Temperature	—	-55 to +175	$^\circ\text{C}$
T_O	Operation Temperature	—	-55 to +150	$^\circ\text{C}$
T_{stg}	Storage Temperature	—	-55 to +150	$^\circ\text{C}$
M_D	Mounting torque	—	Min 0.4 Max 0.6	Nm
F_C	Mounting force with clip	—	Min 20 Max 60	N
R_{thJC}	Maximum Thermal Resistance Junction to Case	DC operation	4.50	K/W
R_{thCS}	Typical Thermal Resistance Case to Heat Sink	—	0.50	K/W
wt	Approximate Weight	—	2	g

Characteristic Curves

Fig. 1. Typical Forward Characteristics

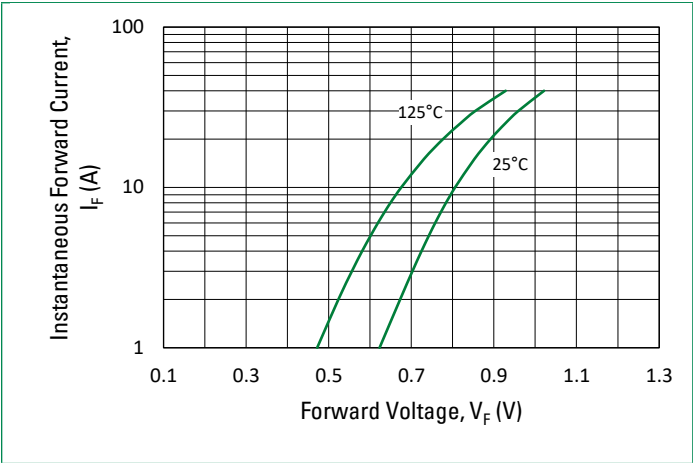


Fig. 2. Typical Reverse Characteristics

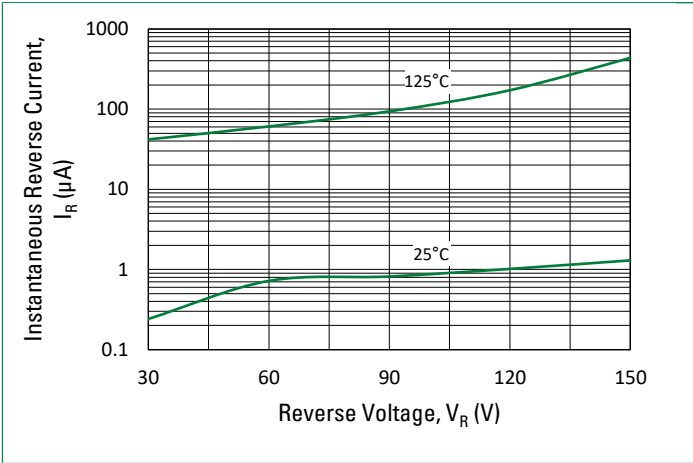
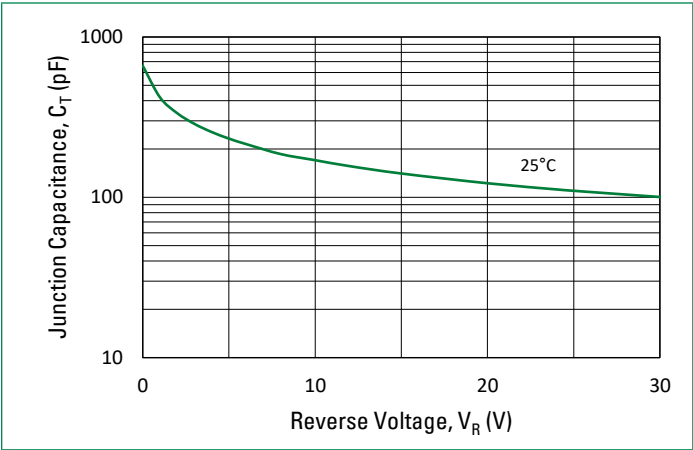
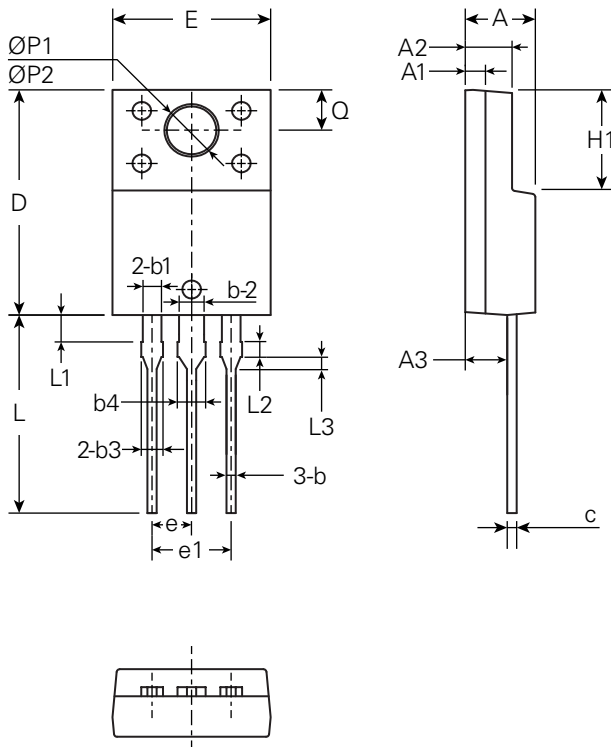


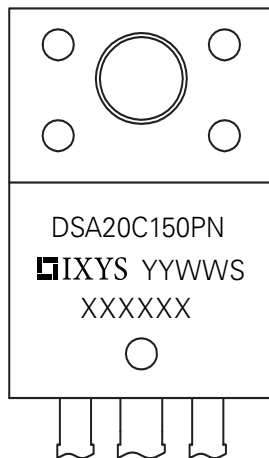
Fig. 3. Typical Junction Capacitance



Part Outline Drawing (TO-220 ABFP)



Part Number and Marking

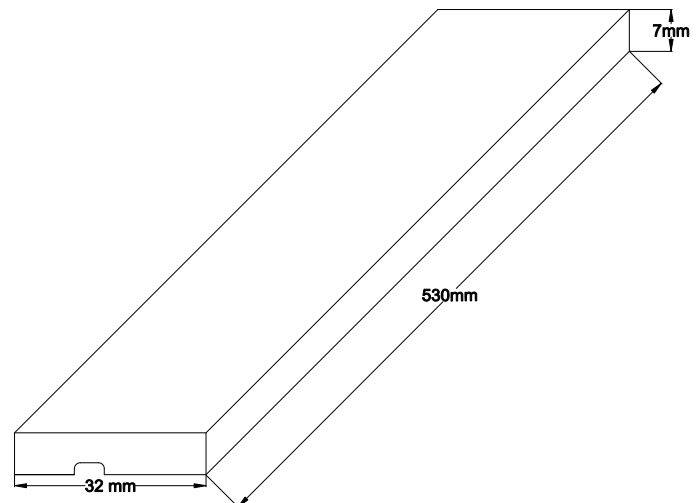


DS = Schottky Diode
 A = Product Generation
 20 = Current Rate
 C = Common Cathode
 150 = Voltage Rating
 PN = Package Code
 YY = Year
 WW = Work Week
 S = Plant Location Code
 XXXXXX = Lot Number

Ordering Information

Part Number	Marking	Packing Mode	M.O.Q
DSA20C150PN	DSA20C150PN	Tube (50 pcs)	—

Symbol	Inches			Millimeters		
	Min.	Typical	Max.	Min.	Typical	Max
A	0.169	0.177	0.185	4.30	4.50	4.70
A1	0.043	0.051	0.059	1.10	1.30	1.50
A2	0.110	0.118	0.126	2.80	3.00	3.20
A3	0.098	0.106	0.114	2.50	2.70	2.90
b	0.020	0.024	0.03	0.50	0.60	0.75
b1	0.043	0.047	0.053	1.10	1.20	1.35
b2	0.059	0.063	0.069	1.50	1.60	1.75
b3	0.047	0.051	0.057	1.20	1.30	1.45
b4	0.063	0.067	0.073	1.60	1.70	1.85
c	0.020	0.024	0.030	0.50	0.60	0.75
D	0.583	0.591	0.598	14.80	15.00	15.20
E	0.392	0.400	0.408	9.96	10.16	10.36
e	—	0.100	—	—	2.55	—
e1	—	0.201	—	—	5.10	—
H1	0.256	0.264	0.272	6.50	6.70	6.90
L	0.500	0.520	0.539	12.70	13.20	13.70
L1	0.063	0.071	0.079	1.60	1.80	2.00
L2	0.031	0.039	0.047	0.80	1.00	1.20
L3	0.024	0.031	0.039	0.60	0.80	1.00
ØP1	0.130	0.138	0.146	3.30	3.50	3.70
ØP2	0.118	0.126	0.133	2.99	3.19	3.39
Q	0.098	0.106	0.114	2.50	2.70	2.90



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Part of:

