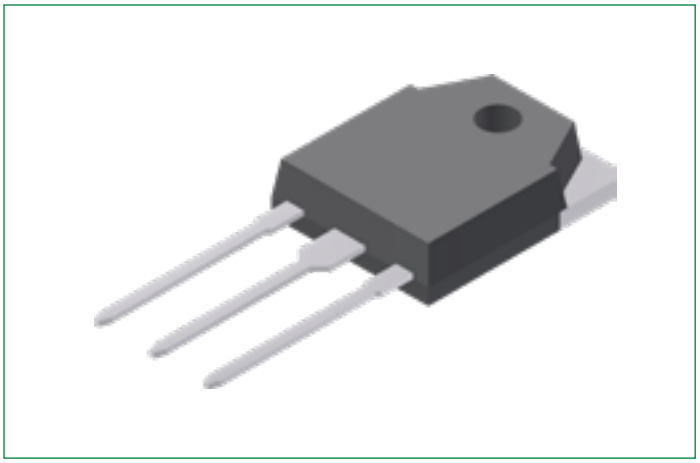
DSA120C150QB

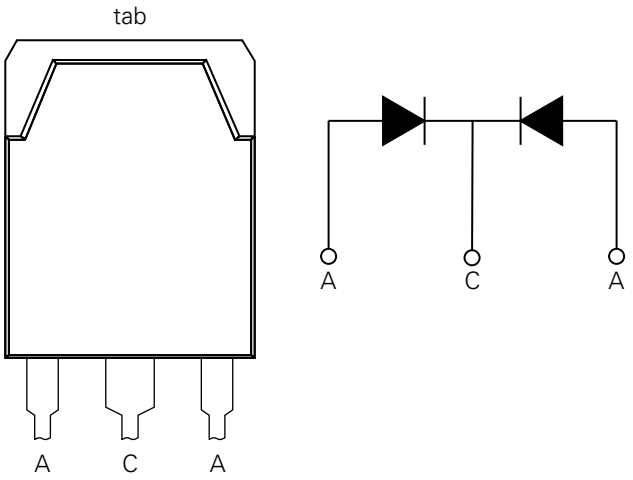
150 V, 2x 60 A Schottky Rectifier Diode



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
- This is a Pb-free device
- Epoxy meets UL 94V-0

Pinout Diagram (TO-3P)



C: Cathode; **A:** Anode; **tab:** Cathode

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 60	A
V_F	0.85	V

Revised: TK. 01/22/2024

Maximum Ratings (T_A = 25°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 =150°C, rectangular wave form	60 (Per Leg)	A
			120 (Per Device)	
I_{FSM}	Peak One Cycle Non-Repetitive Surge Current (Per Leg)	10 ms, Half Sine pulse, T_{VJ} =25°C	800	A
P_{tot}	Total power dissipation	T_C = 25°C	375	W

Electrical Characteristics (T_A = 25°C unless otherwise specified)

Symbol	Characteristics	Conditions	Typ.	Max.	Units
V_{F1}	Forward Voltage Drop (Per Leg)[1]	@ 60 A, Pulse, T_{VJ} = 25°C	–	0.93	V
V_{F2}		@ 60 A, Pulse, T_{VJ} = 125°C	–	0.85	V
I_{R1}	Reverse Current (Per Leg)*	@V_R = rated V_R, T_{VJ} = 25°C	–	0.90	mA
I_{R2}		@V_R = rated V_R, T_{VJ} = 125°C	–	5	mA
C_T	Junction Capacitance	@V_R = 24 V, T_C = 25 °C f_{SIG} = 1 MHz	500	–	pF

Note 1: Pulse width < 300 µs, duty cycle < 2%

Thermal-Mechanical Specifications

Symbol	Characteristics	Condition	Specification	Units
T_{VJ}	Junction Temperature	–	-55 to +175	°C
T_O	Operation Temperature	–	-55 to +150	°C
T_{stg}	Storage Temperature	–	-55 to +150	°C
M_D	Mounting Torque	–	Min 0.8 Max 1.2	Nm
F_C	Mounting force with clip	–	Min 20 Max 120	N
R_{thJC}	Maximum Thermal Resistance Junction to Case	DC operation	0.40	K/W
R_{thCS}	Typical Thermal Resistance Case to Heat Sink	–	0.30	K/W
wt	Approximate Weight	–	6.28	g

Characteristic Curves

Fig. 1. Typical Forward Characteristics

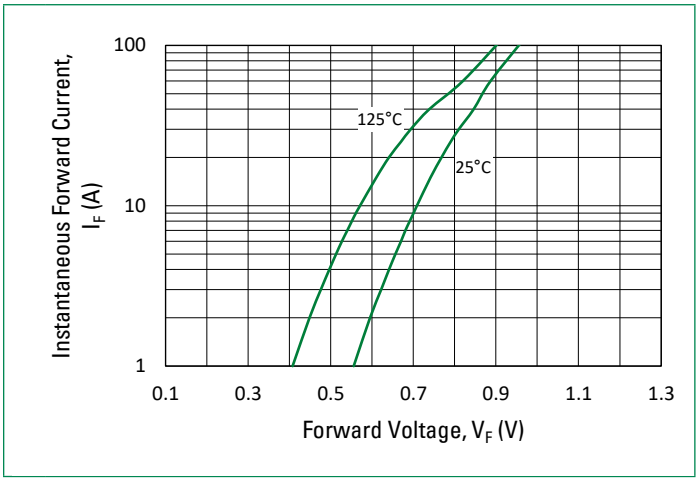


Fig. 2. Typical Reverse Characteristics

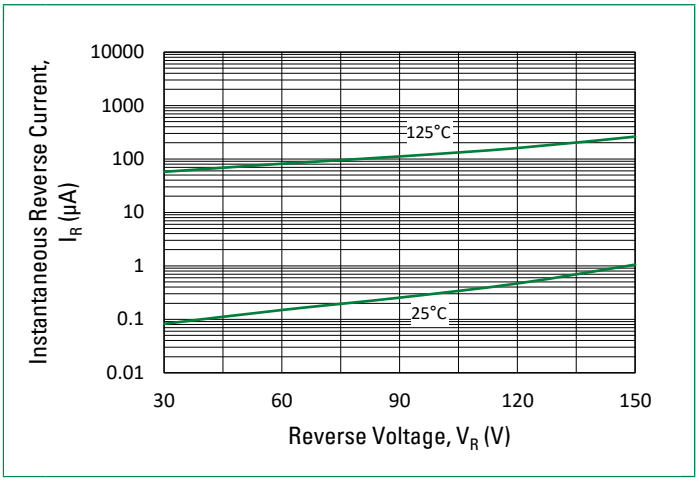
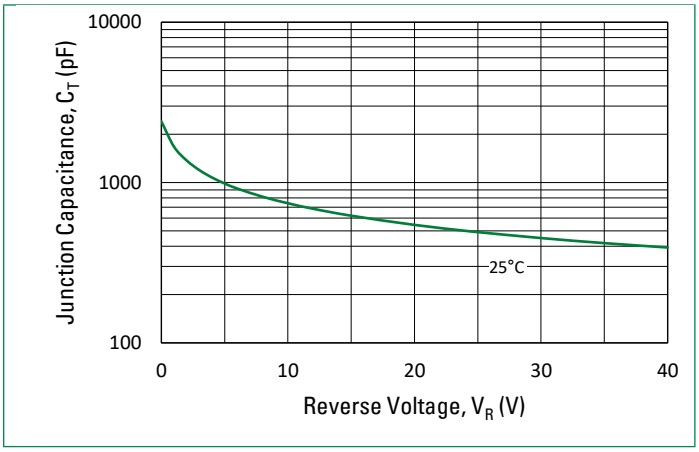
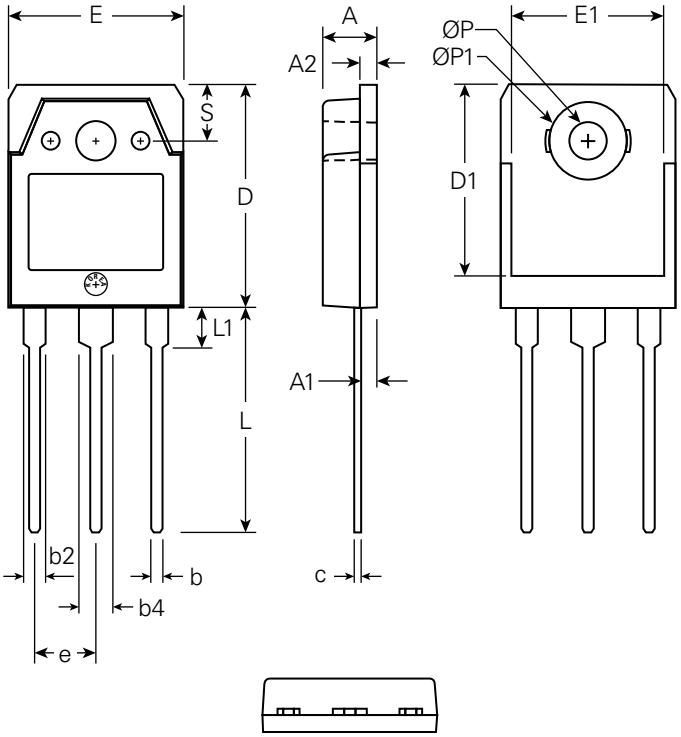


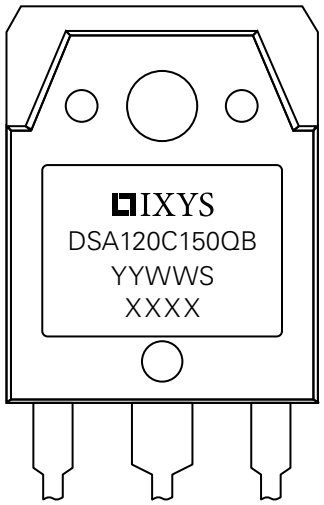
Fig. 3. Typical Junction Capacitance





Symbol	Inches			Millimeters		
	Min.	Typical	Max.	Min.	Typical	Max.
A	0.185	–	1.193	4.70	–	4.90
A1	0.051	–	0.059	1.30	–	1.50
A2	0.057	–	0.065	1.45	–	1.65
b	0.035	–	0.045	0.90	–	1.15
b2	0.075	–	0.087	1.90	–	2.20
b4	0.114	–	0.126	2.90	–	3.20
c	0.022	–	0.031	0.55	–	0.80
D	0.780	–	0.791	19.80	–	20.10
D1	0.665	–	0.677	16.90	–	17.20
E	0.610	–	0.622	15.50	–	15.80
E1	0.531	–	0.539	13.50	–	13.70
e	0.215 BSC			5.45 BSC		
L	0.780	–	0.795	19.80	–	20.20
L1	0.134	–	0.142	3.40	–	3.60
ØP	0.126	–	0.134	3.20	–	3.40
ØP1	0.272	–	0.280	6.90	–	7.10
S	0.193	–	0.201	4.90	–	5.10

Part Number and Marking

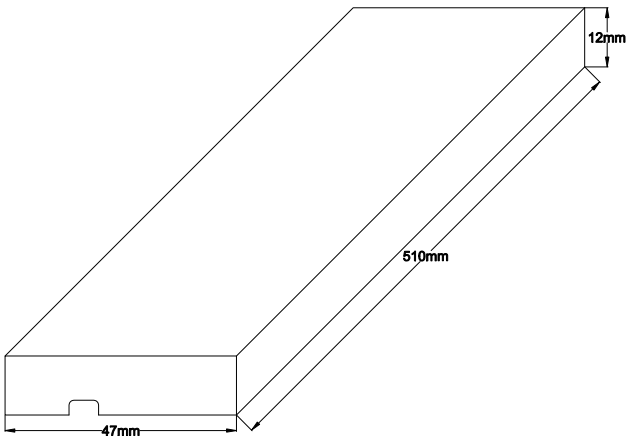


DS = Schottky Diode
A = Product Generation
120 = Current Rate
C = Common Cathode
150 = Voltage Rating
QB = Package Code
YY = Year
WW = Work Week
S = Plant Location Code
XXXX = Lot Number

Ordering Information

Part Number	Marking	Packing Mode	M.O.Q
DSA120C150QB	DSA120C150QB	Tube (30 pcs)	–

Packing Specifications



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