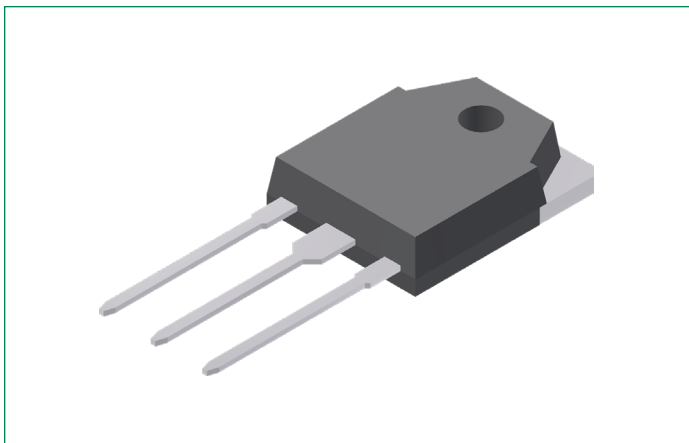


DSA50C100QB

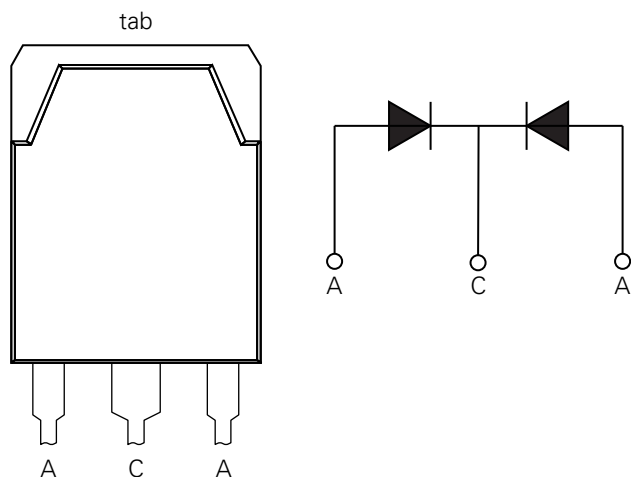
100 V, 2x 25 A Schottky Rectifier Diode

RoHS

Pb

**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}	100	V
I_{FAV}	2 x 25	A
V_F	0.72	V

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

Symbol	Characteristics	Condition	Max.	Units
V_{RRM}	Peak Repetitive Reverse Voltage	-	100	V
V_{RWM}	Working Peak Reverse Voltage			
V_R	DC Blocking Voltage			
I_{FAV}	Average Rectified Forward Current	50% duty cycle @ $T_C = 155^\circ\text{C}$, rectangular wave form	25 (Per Leg) 50 (Per Device)	A
I_{FSM}	Peak One Cycle Non-Repetitive Surge Current (Per Leg)	10 ms, Half Sine pulse, $T_{VJ} = 25^\circ\text{C}$	340	A
P_{tot}	Total power dissipation	$T_C = 25^\circ\text{C}$	160	W

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

Symbol	Characteristics	Conditions	Typ.	Max.	Units
V_{F1}	Forward Voltage Drop (Per Leg) ¹	@ 25 A, Pulse, $T_{VJ} = 25^\circ\text{C}$	-	0.90	V
V_{F2}		@ 25 A, Pulse, $T_{VJ} = 125^\circ\text{C}$	-	0.72	V
I_{R1}	Reverse Current (Per Leg)*	@ $V_R = \text{rated } V_{R'}$, $T_{VJ} = 25^\circ\text{C}$	-	450	μA
I_{R2}		@ $V_R = \text{rated } V_{R'}$, $T_{VJ} = 125^\circ\text{C}$	-	15	mA
C_T	Junction Capacitance	@ $V_R = 12\text{ V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{ MHz}$	334	-	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	$^\circ\text{C}$
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 0.8 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	0.95	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

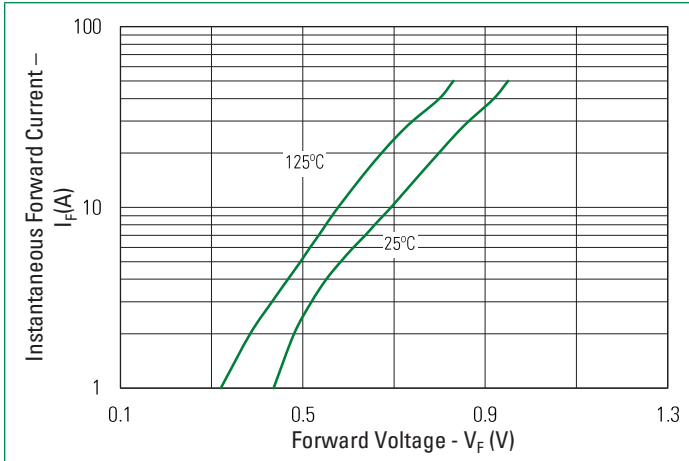


Fig. 2. Typical Reverse Characteristics

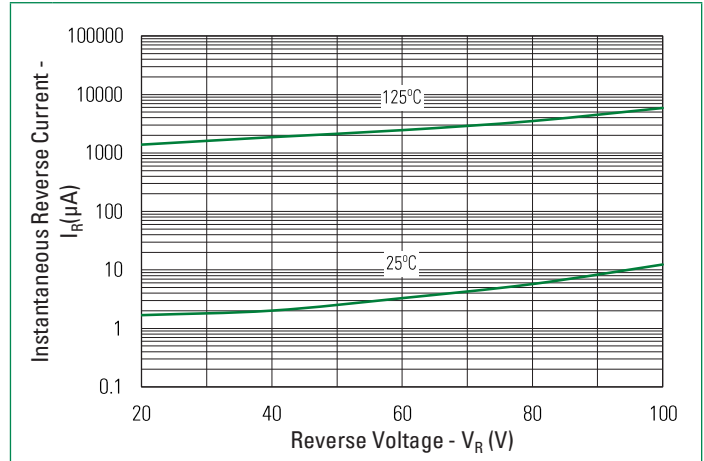
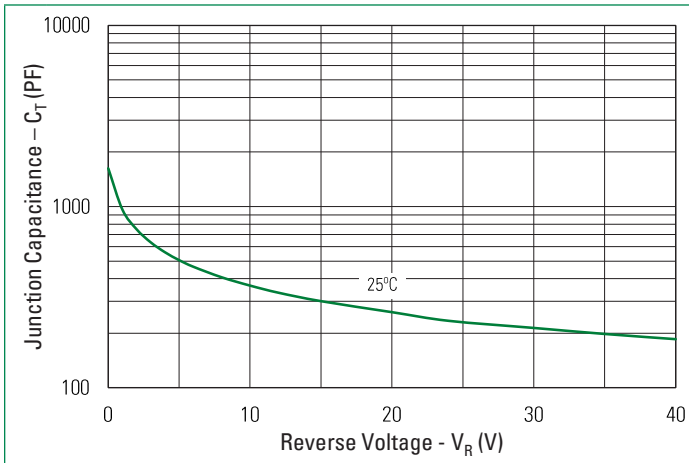
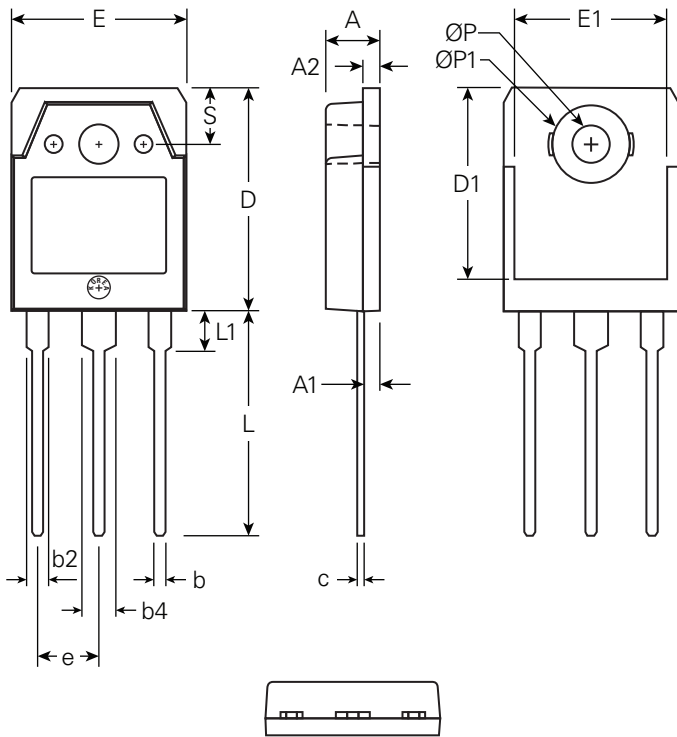


Fig. 3. Typical Junction Capacitance

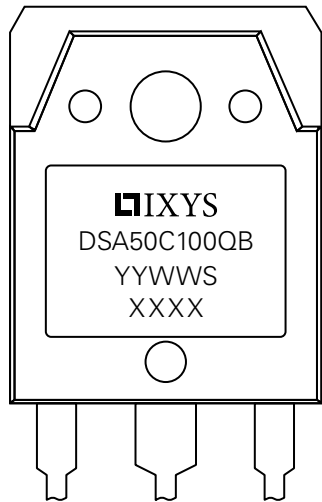


Part Outline Drawing (TO-3P)



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
Ø P	0.126	-	0.134	3.20	-	3.40
Ø P1	0.272	-	0.280	6.90	-	7.10
S	0.193	-	0.201	4.90	-	5.10

Part Number and Marking

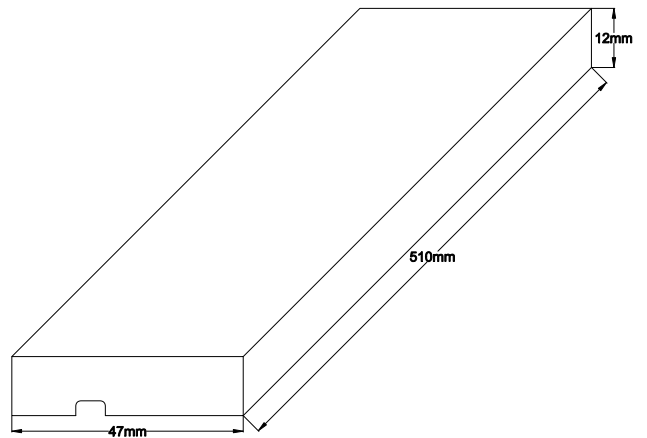


- DS = Schottky Diode
- A = Product Generation
- 50 = Current Rate
- C = Common Cathode
- 100 = Voltage Rating
- QB = Package Code
- YY = Year
- WW = Work Week
- S = Plant Location Code
- XXXX = Lot Number

Ordering Information

Part Number	Marking	Packing Mode	M.O.Q
DSA50C100QB	DSA50C100QB	Tube (30 pcs)	-

Packing Specifications



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