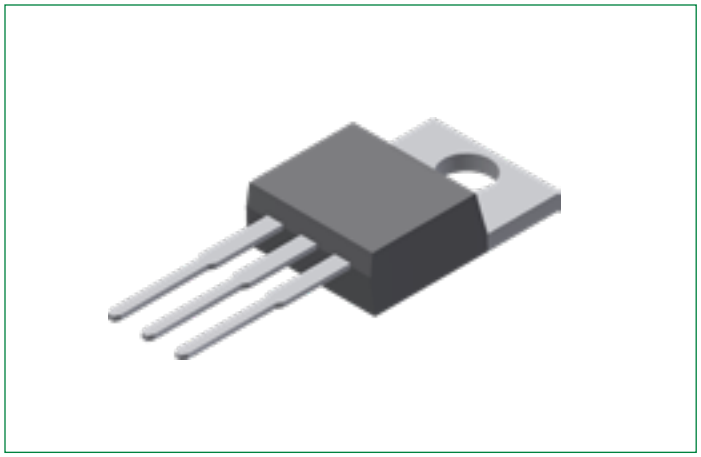
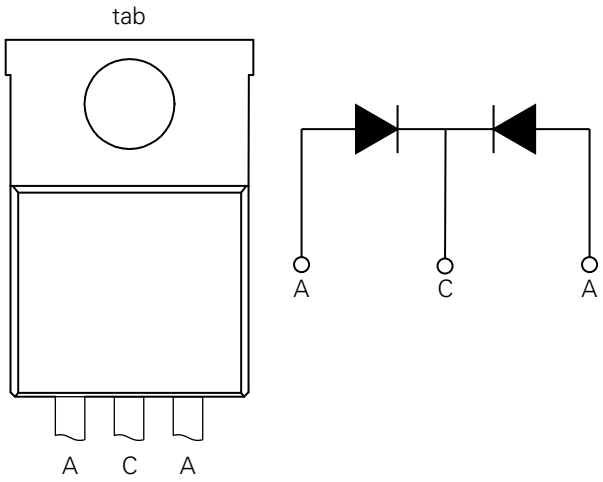
DSA80C100PB

100 V, 80 A Schottky Rectifier Diode



Pinout Diagram (TO-220-3L AB)



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

Description:

- Low Loss and Soft Recovery
- High Performance Schottky Diode
- Common Cathode

Features and Advantages:

- Very low Vf
- Extremely low switching losses
- Low Irm 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

Applications:

- Rectifiers in Switch Mode Power Supplies (SMPS)
- Free wheeling diode in low voltage converters

Maximum Ratings (T_A = 25°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			
$I_{F(AV)}$	Average Rectified Forward Current	50% duty cycle @T_C=150°C, rectangular wave form	40 (Per Leg)	A
			80 (Per Device)	
I_{FSM}	Peak One Cycle Non-Repetitive Surge Current (Per Leg)	10 ms, Half Sine pulse, T_J=25°C	280	A
P_{tot}	Total power dissipation	T_C= 25°C	250	W

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

Symbol	Characteristics	Conditions	Typ.	Max.	Units
V_{F1}	Forward Voltage Drop (Per Leg)[1]	@ 40A, Pulse, T_J = 25°C	–	0.97	V
V_{F2}		@ 40A, Pulse, T_J = 125°C	–	0.80	V
I_{R1}	Reverse Current (Per Leg)[1]	@V_R = rated V_R, T_J = 25°C	–	680	uA
I_{R2}		@V_R = rated V_R, T_J = 125°C	–	7	mA
C_T	Junction Capacitance (Per Leg)	@V_R = 12 V, T_C = 25 °C f_{SIG} = 1MHz	420	–	pF

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

Thermal-Mechanical Specifications

Symbol	Characteristics	Condition	Specification	Units
T_J	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 0.4 Max 0.6	Nm
F_C	Mounting force with clip	–	Min 20 Max 60	N
$R_{\theta JC}$	Maximum Thermal Resistance Junction to Case	DC operation	0.6	°C/W
$R_{\theta CS}$	Typical Thermal Resistance Case to Heat Sink	–	0.5	°C/W
wt	Approximate Weight	–	2	g

Characteristic Curves

Fig. 1. Typical Forward Characteristics

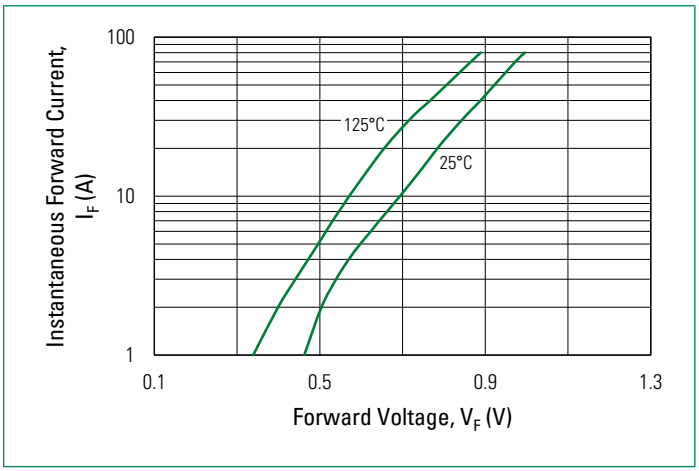


Fig. 2. Typical Reverse Characteristics

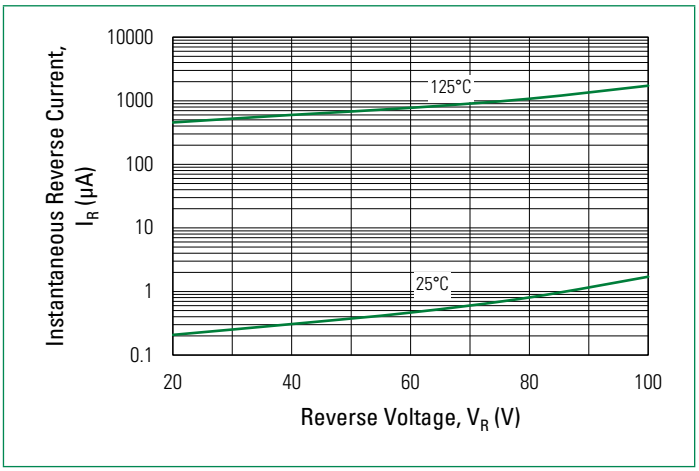
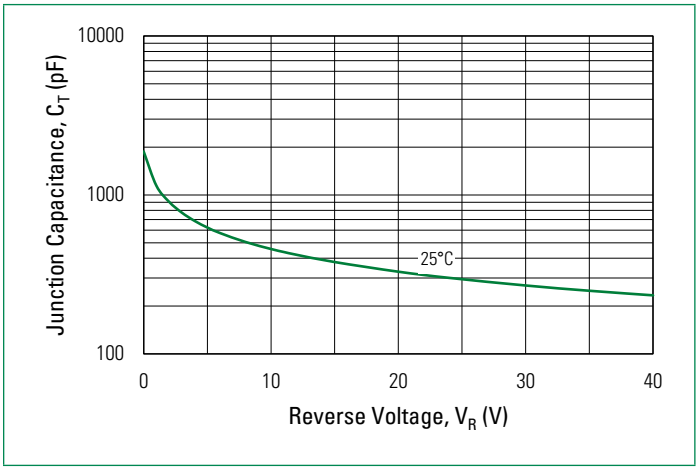
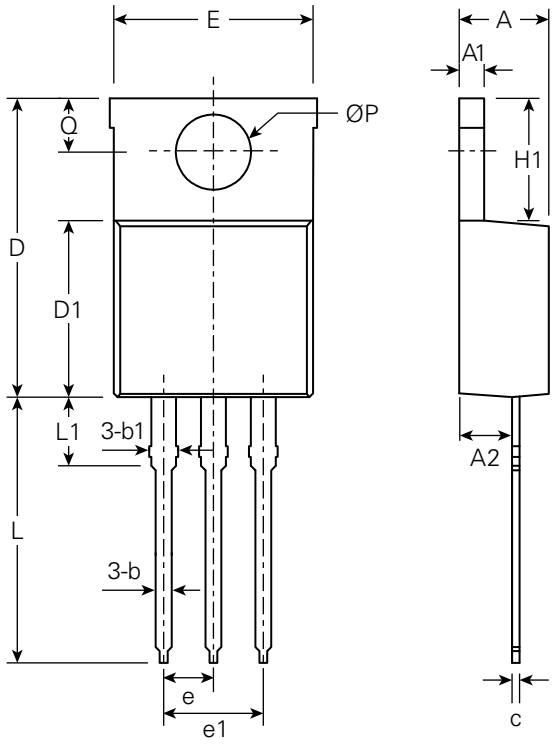


Fig. 3. Typical Junction Capacitance

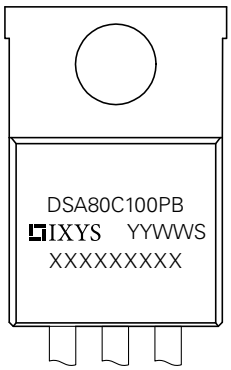


Part Outline Drawing (TO-220-3L AB)



Symbol	Inches			Millimeters		
	Min.	Typical	Max.	Min.	Typical	Max.
A	0.140	–	0.190	3.56	–	4.83
A1	0.020	–	0.055	0.51	–	1.40
A2	0.080	–	0.115	2.03	–	2.92
b	0.015	–	0.040	0.38	–	1.02
b1	0.045	–	0.070	1.14	–	1.78
c	0.012	–	0.024	0.31	–	0.61
D	0.560	–	0.650	14.22	–	16.51
D1	0.330	–	0.371	8.38	–	9.42
E	0.380	–	0.420	9.65	–	10.67
e	–	0.100	–	–	2.54	–
e1	–	0.200	–	–	5.08	–
H1	0.230	–	0.270	5.84	–	6.86
L	0.500	–	0.580	12.70	–	14.73
L1	–	–	0.250	–	–	6.35
ØP	–	0.140	–	–	3.56	–
Q	0.100	–	0.135	2.54	–	3.43

Part Number and Marking



D = Diode
S = Schottky Diode
A = Low VF
80 = Forward Current (80A)
C = Common Cathode
100 = Reverse Voltage (100V)
PB = Package Code (TO-220AB)
YY = Year
WW = Work Week
S = Plant Location Code
XXXXXXXXX = Lot Number

Ordering Information

Part Number	Marking	Packing Mode	M.O.Q
DSA80C100PB	DSA80C100PB	Tube (50 pcs)	–

Packing Specifications