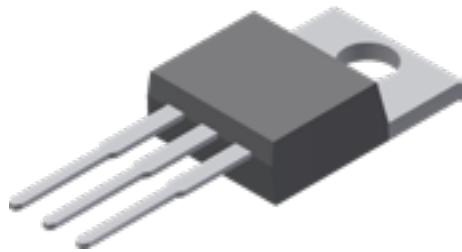
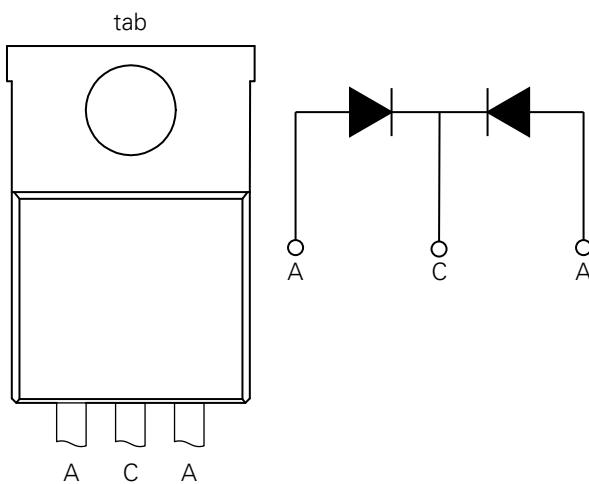


DSA60C45PB

45 V, 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 94 V-0

Pinout Diagram (TO-220-3L AB)

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}	45	V
I_{FAV}	2 x 30	A
V_F	0.70	V

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

Symbol	Characteristics	Condition	Max.	Units
V_{RRM}	Peak Repetitive Reverse Voltage	-	45	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	30 (Per Leg)	A
			60 (Per Device)	
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	$T_c = 25^\circ\text{C}$	175	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	@ 30 A, Pulse, $T_{VJ} = 25^\circ\text{C}$	—	0.79	V
V_{F2}		@ 30 A, Pulse, $T_{VJ} = 125^\circ\text{C}$	—	0.70	V
I_{R1}	Reverse Current (Per Leg) ¹	@ $V_R = \text{rated } V_R$, $T_{VJ} = 25^\circ\text{C}$	—	450	uA
I_{R2}		@ $V_R = \text{rated } V_R$, $T_{VJ} = 125^\circ\text{C}$	—	5	mA
C_T	Junction Capacitance (Per Leg)	@ $V_R = 5\text{V}$, $T_c = 25^\circ\text{C}$ $f_{SIG} = 1\text{ MHz}$	707	—	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 0.4 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	0.85	K/W
R_{thJS}	Typical Thermal Resistance Junction to Heat Sink	—	0.5	K/W
wt	Approximate Weight	—	2	g

Characteristic Curves

Fig. 1. Typical Forward Characteristics

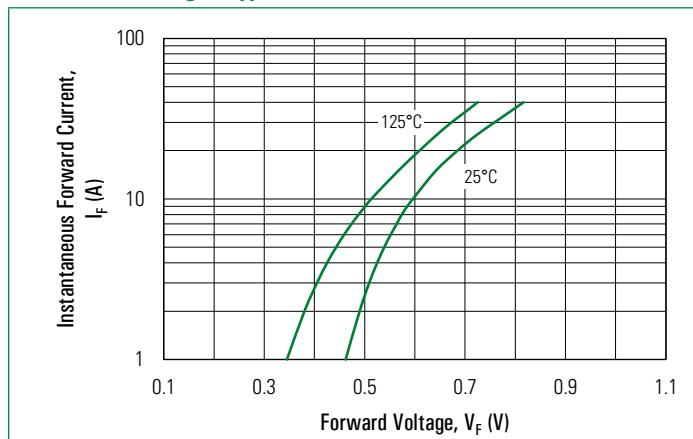


Fig. 2. Typical Reverse Characteristics

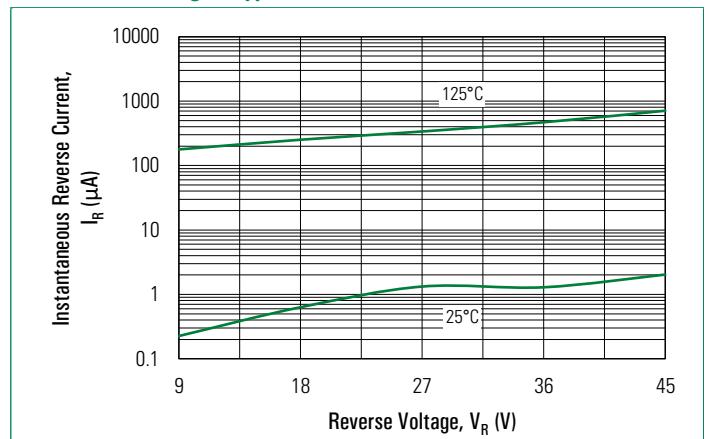
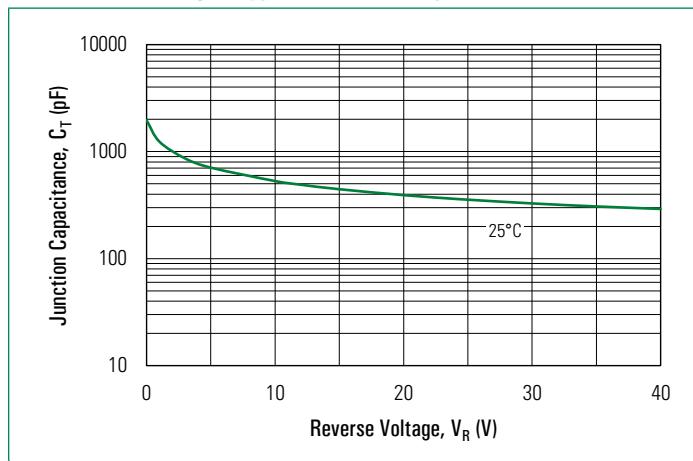
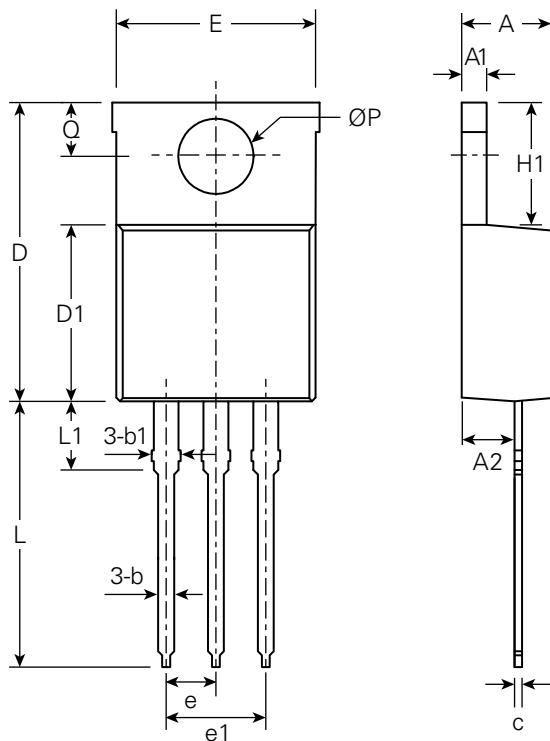


Fig. 3. Typical Junction Capacitance

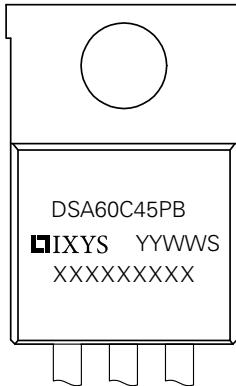


Part Outline Drawing (TO-220-3L AB)



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

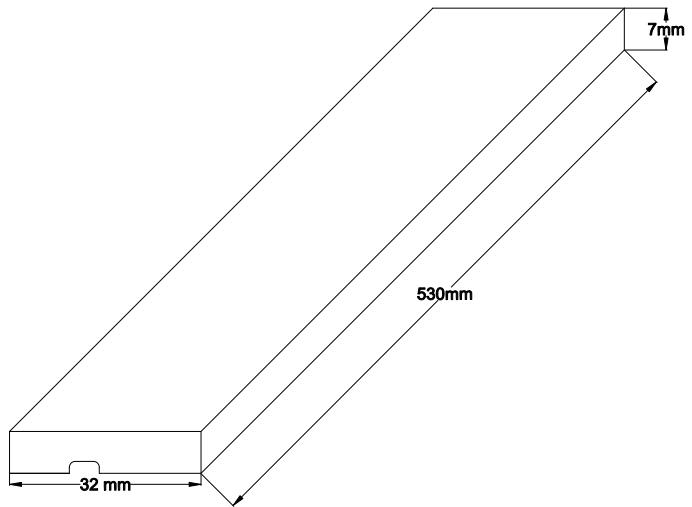


D = Diode
 S = Schottky Diode
 A = Low VF
 60 = Forward Current (60A)
 C = Common Cathode
 45 = Reverse Voltage (45V)
 PB = Package Code (TO-220AB)
 YY = Year
 WW = Work Week
 S = Plant Location Code
 XXXXXXXXXX = Lot Number

Ordering Information

Part Number	Marking	Packing Mode	Quantity
DSA60C45PB	DSA60C45PB	Tube	50 pcs/ tube

Packing Specifications



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