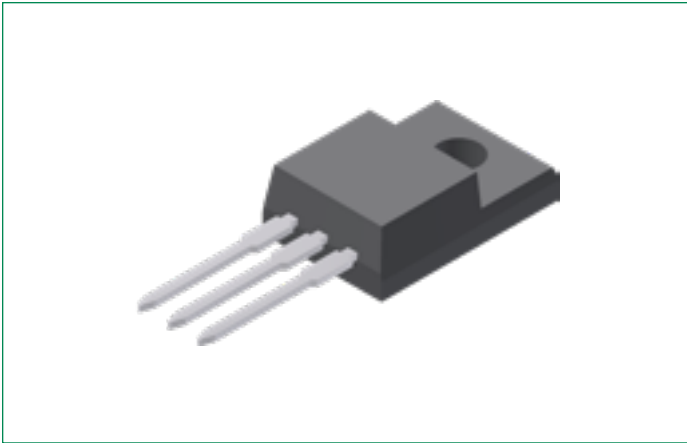
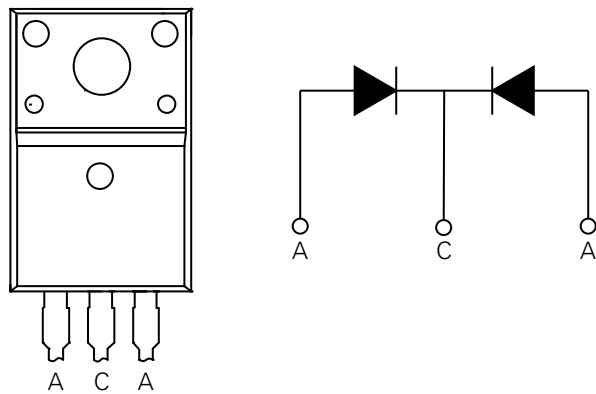


DSA20C60PN

60 V, 20 A Schottky Rectifier Diode



Pinout Diagram (TO-220-3L ABFP)



A: Anode; **C:** Cathode

Description

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

Features & Benefits

- Very low V_f
- Extremely low switching losses
- Low I_{rm} values
- Improved thermal behaviour
- 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
- Isolation Voltage: $V \sim 2500$
- Soldering pins for PCB mounting
- Base plate: Plastic over molded tab

Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Maximum Ratings

Symbol	Characteristic	Conditions	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	-	60	V
V_{RWM}	Working Peak Reverse Voltage			
V_R	DC Blocking Voltage			
$I_{F(AV)}$	Average Rectified Forward Current	50% duty cycle @ $T_C = 140\text{ }^{\circ}\text{C}$, rectangular wave form	per leg 10	A
			per device 20	A
I_{FSM}	Peak One Cycle Non-Repetitive Surge Current (per leg)	10 ms, Half Sine pulse, $T_J = 25\text{ }^{\circ}\text{C}$	150	A
P_{tot}	Total Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	35	W

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

Symbol	Characteristic	Conditions	Value			Unit
			Min.	Typ.	Max.	
V_{F1}	Forward Voltage Drop (per leg) ¹	@10A, Pulse, $T_J = 25\text{ }^{\circ}\text{C}$	-	-	0.86	V
V_{F2}		@10A, Pulse, $T_J = 125\text{ }^{\circ}\text{C}$	-	-	0.70	V
I_{R1}	Reverse Current (per leg) ¹	@ $V_R = \text{rated } V_R$, $T_J = 25\text{ }^{\circ}\text{C}$	-	-	200	μA
I_{R2}		@ $V_R = \text{rated } V_R$, $T_J = 125\text{ }^{\circ}\text{C}$	-	-	15	mA
C_T	Junction Capacitance (per leg)	@ $V_R = 12\text{ V}$, $T_C = 25\text{ }^{\circ}\text{C}$, $f_{sig} = 1\text{ MHz}$	-	194	-	pF
V_{ISO}	Isolation Voltage	$t = 1\text{ sec.}$, 50/60 Hz. RMS; $I_{ISOL} \leq 1\text{ mA}$	2500	-	-	V
		$t = 1\text{ min.}$, 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_J	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
$R_{\theta JC}$	Maximum Thermal Resistance Junction to Case	DC operation	4.8	$^{\circ}\text{C/W}$
$R_{\theta CS}$	Typical Thermal Resistance Case to Heat Sink	-	0.50	$^{\circ}\text{C/W}$
wt	Approximate Weight	-	2	g

Characteristic Curves

Fig. 1. Typical Forward Characteristics

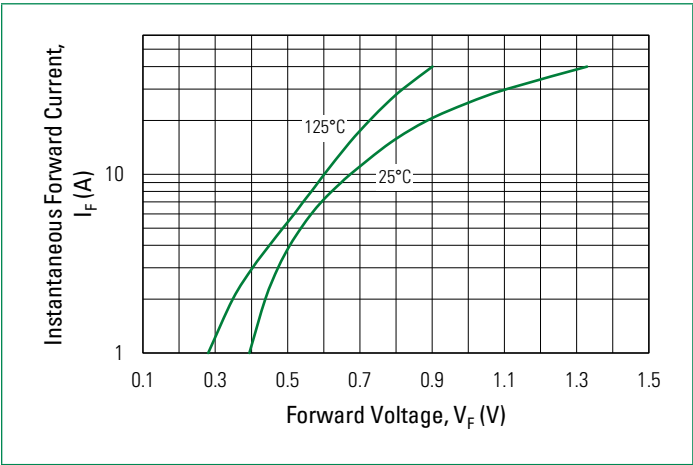


Fig. 2. Typical Reverse Characteristics

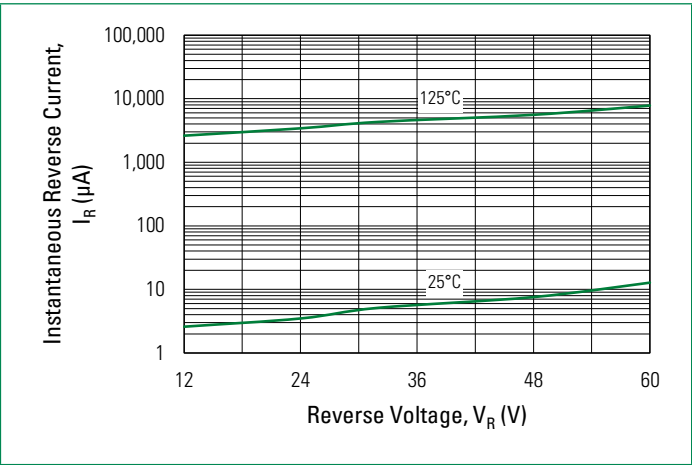
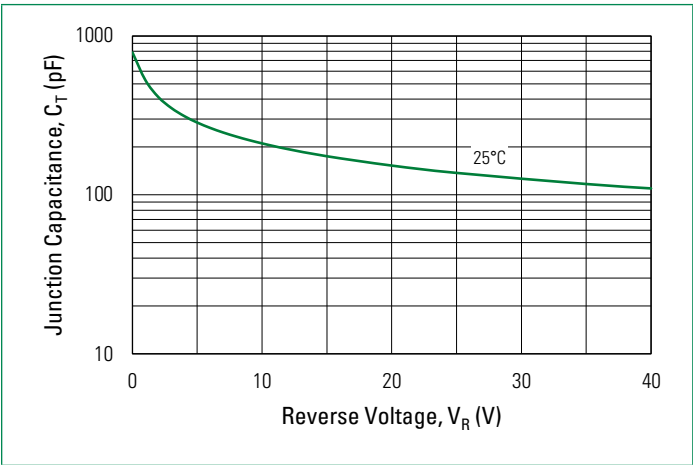
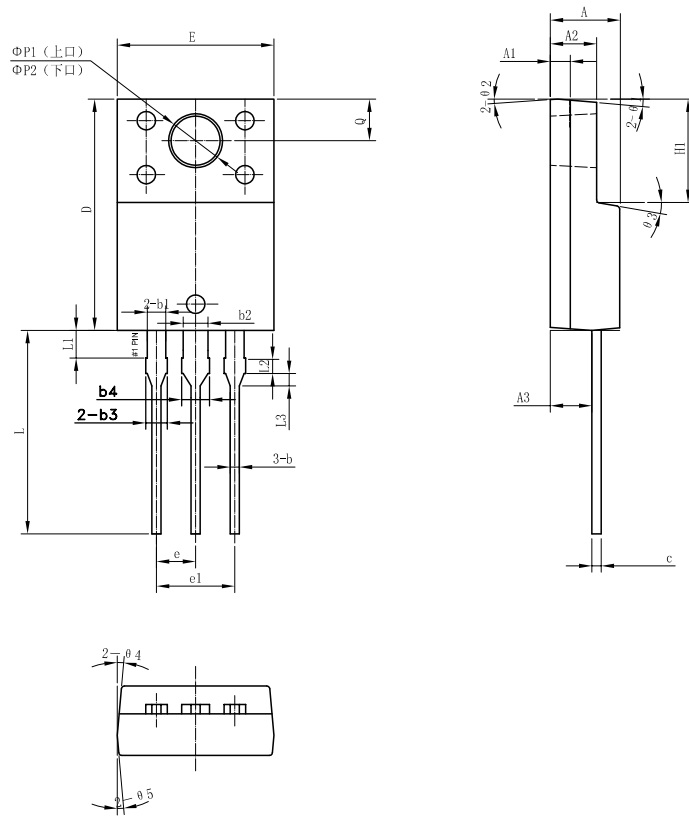


Fig. 3. Typical Junction Capacitance

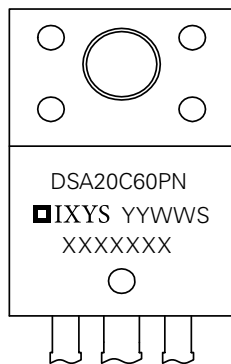


Part Outline Drawing (TO-220-3L ABFP)



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
$\Phi P1$	0.130	0.138	0.146	3.30	3.50	3.70
$\Phi P2$	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

Part Numbering and Marking

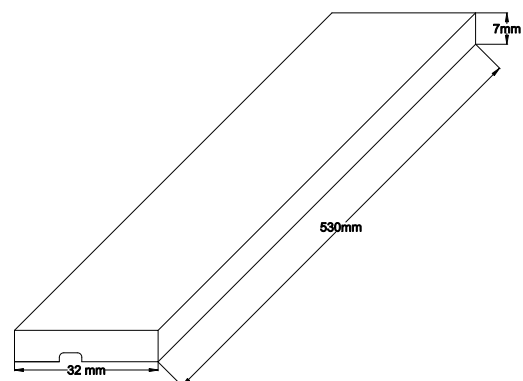


DS = Schottky Diode
 A = Product Generation
 20 = Current Rating (20A)
 C = Common Cathode
 60 = Voltage Rating (600V)
 PN = Package Code
 YY = Year
 WW = Work Week
 S = Plant Location Code
 XXXXXXX = Lot Number

Ordering Information

Part Number	Marking	Packing Mode	M.O.Q.
DSA20C60PN	DSA20C60PN	Tube (50 pcs)	—

Packing Specifications



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