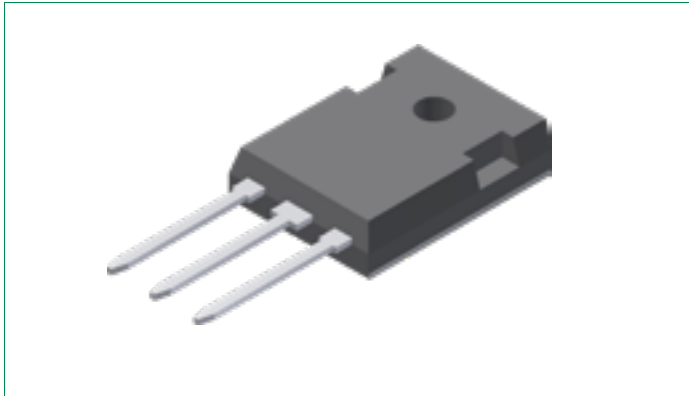


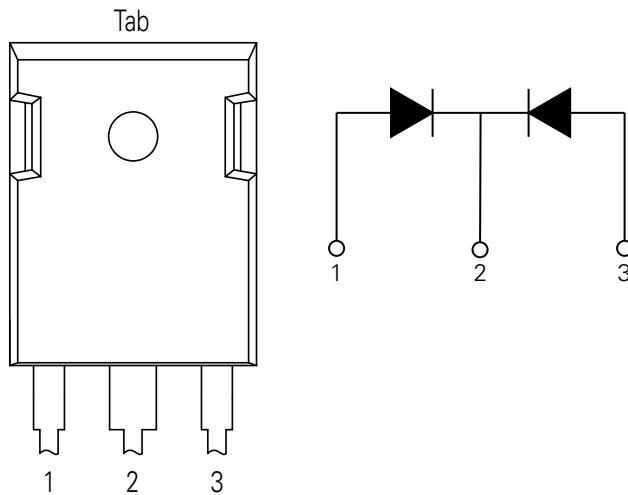
DSA70C100HB

100 V, 2 x 35 A Schottky Diode

RoHS

**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
- RoHS compliant
- Epoxy meets UL 94V-0

Pinout Diagram (TO-247)**1:** Anode; **2:** Cathode ; **3:** 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 35	A
V_F	0.76	V

Maximum Ratings

Symbol	Characteristics	Condition	Max.	Units
V_{RSM}	Maximum Non-repetitive Reverse Blocking Voltage	$T_{VJ} = 25^{\circ}C$	100	V
V_{RRM}	Maximum Repetitive Reverse Blocking Voltage	$T_{VJ} = 25^{\circ}C$	100	V
I_{RMS}	RMS Current	per terminal	50	A
$I_{R(max)}$	Reverse Current	$V_R = 100\text{ V}, T_{VJM} = 25^{\circ}C$	0.5	mA
		$V_R = 100\text{ V}, T_{VJM} = 125^{\circ}C$	16	
$I_{FAV(max)}$	Average Forward Current Rectangular d = 0.5	$T_C = 151^{\circ}C, T_{VJM} = 175^{\circ}C$	35	A
$I_{FSM(max)}$	Maximum Forward Surge Current (Half Sine)	t = 10 ms, (50 Hz), $T_{VJM} = 45^{\circ}C$	450	A
$P_{tot(max)}$	Total Power Dissipation	$T_C = 25^{\circ}C$	165	W

Electrical Characteristics

Symbol	Characteristics	Conditions	Specification	Units
$V_{F(max)}$	Forward Voltage Drop	$I_F = 35\text{ A}; T_{VJM} = 25^{\circ}C$	0.91	V
		$I_F = 70\text{ A}; T_{VJM} = 25^{\circ}C$	1.09	
		$I_F = 35\text{ A}; T_{VJM} = 125^{\circ}C$	0.76	
		$I_F = 70\text{ A}; T_{VJM} = 125^{\circ}C$	0.89	
$V_{F0(max)}$	Threshold Voltage	$T_{VJM} = 175^{\circ}C$	0.61	V
$r_{F(max)}$	Slope Resistance		2.3	mΩ
$C_{J(typ)}$	Junction Capacitance	$V_R = 5\text{ V}, T_{VJM} = 25^{\circ}C, f = 1\text{ MHz}$	650	pF

Thermal Specifications

Symbol	Characteristics	Condition	Specification	Units
T_{VJ}	Virtual Junction Temperature	–	-55 to +175	°C
T_{op}	Operation Temperature	–	-55 to +150	°C
$R_{thJC(max)}$	Thermal Resistance Junction to Case	–	0.9	K/W
$R_{thCH(typ)}$	Thermal Resistance Case to Heat Sink	–	0.3	K/W

Characteristic Curves

Figure 1. Maximum Forward Voltage Drop Characteristics

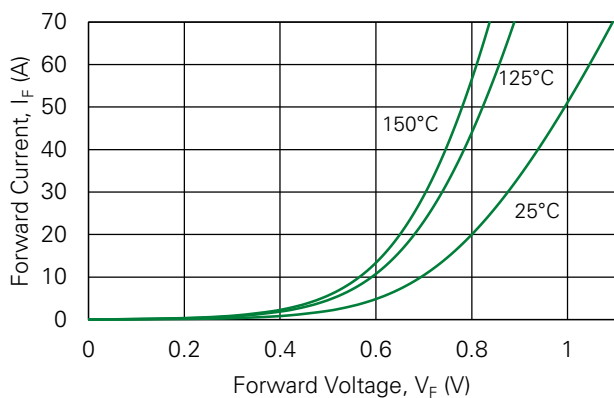


Figure 2. Typical Reverse Current vs. Reverse Voltage

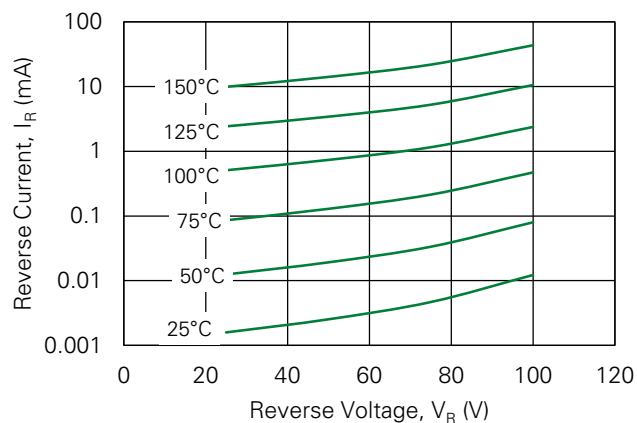


Figure 3. Typical Junction Capacitance vs. Reverse Voltage

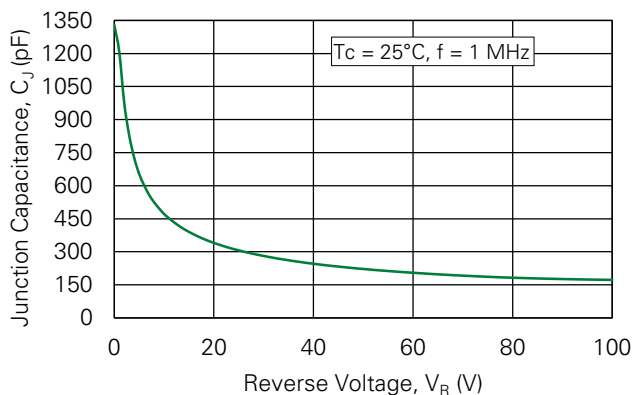


Figure 4. Average Forward Temperature vs. Case Temperature

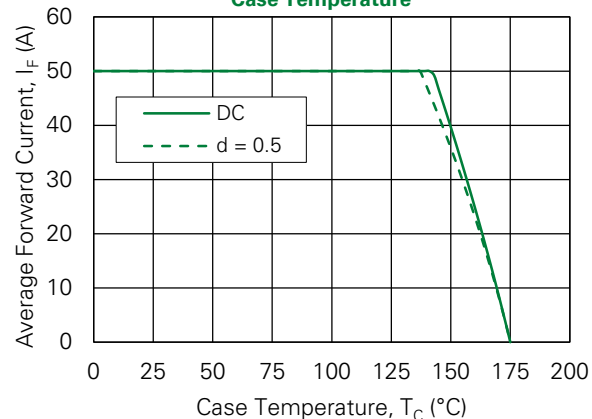


Figure 5. Forward Power Loss Characteristics

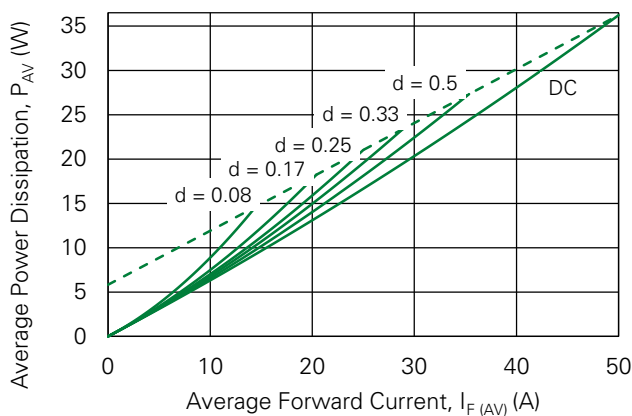
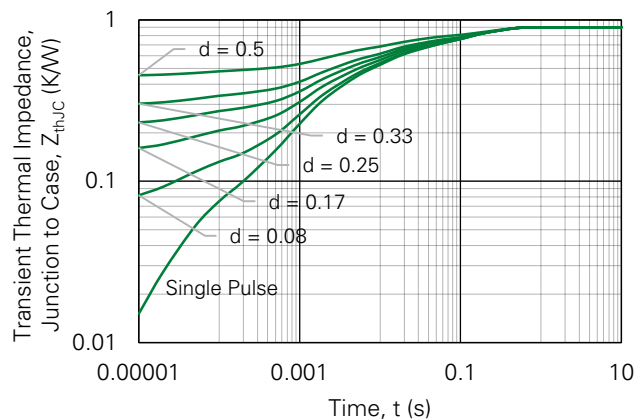
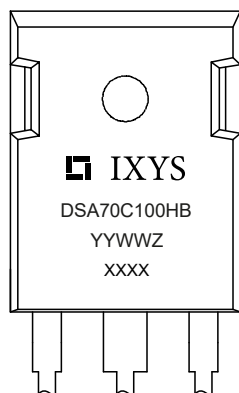


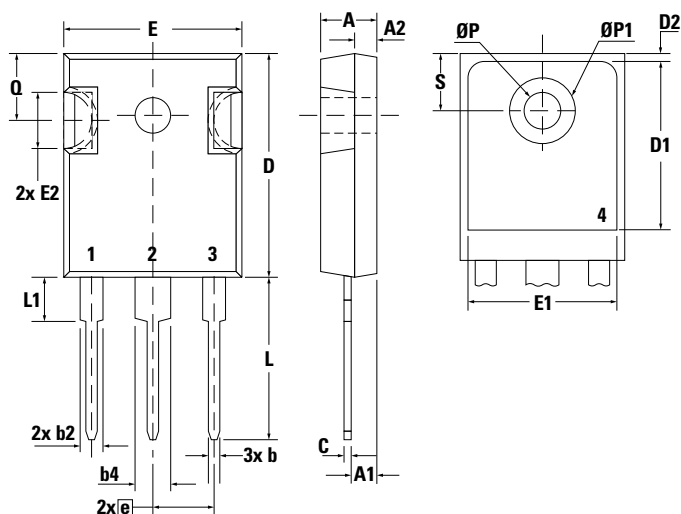
Figure 6. Transient Thermal Impedance



Part Number and Marking



D = Diode
S = Schottky Diode
A = Low V_F
70 = Current Rate (A)
C = Common Cathode
00 = Reverse Voltage (V)
HB TO-247AD
YY = Year
W = Work Week
Z = Plant Location Code
xx = Lot Number



Symbol	Inches			Millimeters		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.185	-	0.209	4.70	-	5.30
A1	0.087	-	0.102	2.21	-	2.59
A2	0.059	-	0.098	1.50	-	2.49
b	0.039	-	0.055	0.99	-	1.40
b2	0.065	-	0.094	1.65	-	2.39
b4	0.102	-	0.135	2.59	-	3.43
c	0.015	-	0.035	0.38	-	0.89
D	0.819	-	0.845	20.79	-	21.45
D1	0.515	-	-	13.07	-	-
D2	0.020	-	0.053	0.51	-	1.35
E	0.610	-	0.640	15.48	-	16.24
E1	0.530	-	-	13.45	-	-
E2	0.170	-	0.216	4.31	-	5.48
e	0.215 BSC			5.46 BSC		
L	0.780	-	0.800	19.80	-	20.30
L1	-	-	0.177	-	-	4.49
Ø P	0.140	-	0.144	3.55	-	3.65
Ø P1	-	-	0.29	-	-	7.39
Q	0.212	-	0.244	5.38	-	6.19
S	0.242 BSC			6.14 BSC		

Ordering Information

Part Number	Marking	Packing Mode	Quantity
DSA70C100HB	DSA70C100HB	Tube	30 pcs/ tube

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