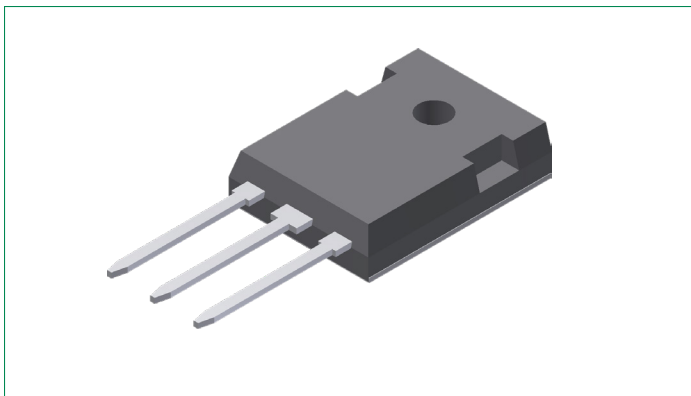


DSA90C200HB

200 V, 2 x 45 A Schottky Diode

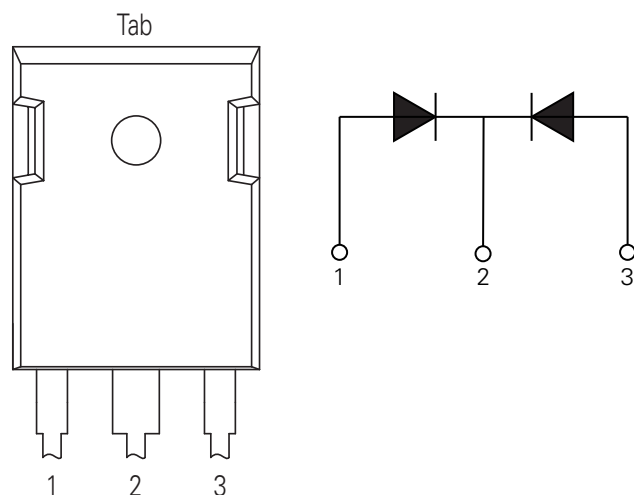
RoHS



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}	200	V
I_{FAV}	2 x 45	A
V_F	0.78	V

Maximum Ratings

Symbol	Characteristics	Condition	Max.	Units
V_{RSM}	Maximum Non-repetitive Reverse Blocking Voltage	$T_{VJ} = 25^{\circ}\text{C}$	200	V
V_{RRM}	Maximum Repetitive Reverse Blocking Voltage	$T_{VJ} = 25^{\circ}\text{C}$	200	V
I_{RMS}	RMS Current	per terminal	70	A
$I_{R(max)}$	Reverse Current	$V_R = 200\text{ V}, T_{VJM} = 25^{\circ}\text{C}$	1.1	mA
		$V_R = 200\text{ V}, T_{VJM} = 125^{\circ}\text{C}$	5	
$I_{FAV(max)}$	Average Forward Current Rectangular $d = 0.5$	$T_C = 148^{\circ}\text{C}, T_{VJM} = 175^{\circ}\text{C}$	45	A
$I_{FSM(max)}$	Maximum Forward Surge Current (Half Sine)	$t = 10\text{ ms}, (50\text{ Hz}), T_{VJM} = 45^{\circ}\text{C}$	650	A
$P_{tot(max)}$	Total Power Dissipation	$T_C = 25^{\circ}\text{C}$	215	W
T_{VJ}	Virtual Junction Temperature	–	-55 to +175	$^{\circ}\text{C}$
T_{op}	Operating Temperature	–	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics

Symbol	Characteristics	Conditions	Specification	Units
$V_{F(max)}$	Forward Voltage Drop	$I_F = 45\text{ A}; \text{Pulse}, T_{VJM} = 25^{\circ}\text{C}$	0.91	V
		$I_F = 90\text{ A}; \text{Pulse}, T_{VJM} = 25^{\circ}\text{C}$	1.03	
		$I_F = 45\text{ A}; \text{Pulse}, T_{VJM} = 125^{\circ}\text{C}$	0.78	
		$I_F = 90\text{ A}; \text{Pulse}, T_{VJM} = 125^{\circ}\text{C}$	0.93	
$V_{F0(max)}$	Threshold Voltage	$T_{VJM} = 175^{\circ}\text{C}$	0.57	V
$r_{F(max)}$	Slope Resistance		3.2	$\text{m}\Omega$
$C_{J(typ)}$	Junction Capacitance	$V_R = 5\text{ V}, T_{VJM} = 25^{\circ}\text{C}, f = 1\text{ MHz}$	800	pF

Thermal Specifications

Symbol	Characteristics	Condition	Specification	Units
$R_{thJC(max)}$	Thermal Resistance Junction to Case	–	0.7	K/W
$R_{thCH(typ)}$	Thermal Resistance Case to Heat Sink	–	0.3	K/W

Characteristic Curves

Figure 1. Maximum Forward Voltage Drop Characteristics

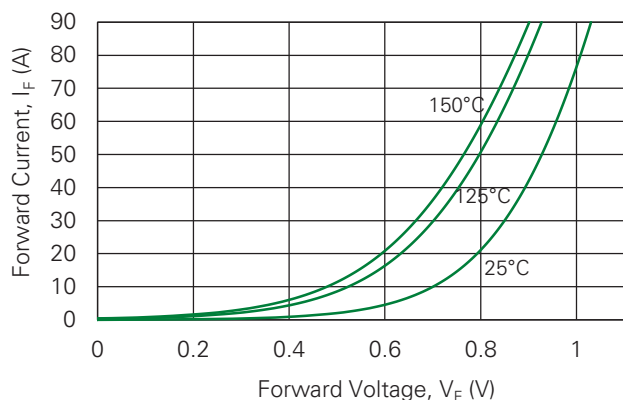


Figure 2. Typical Reverse Current vs. Reverse Voltage

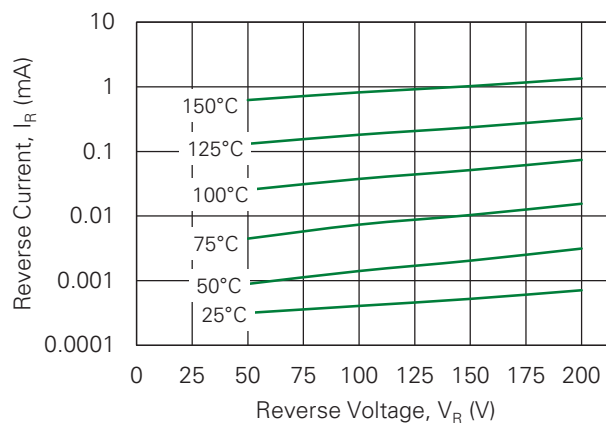


Figure 3. Typical Junction Capacitance vs. Reverse Voltage

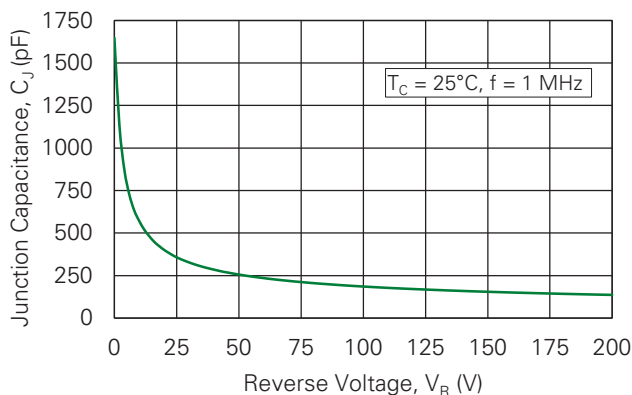


Figure 4. Average Forward Current vs. Case Temperature

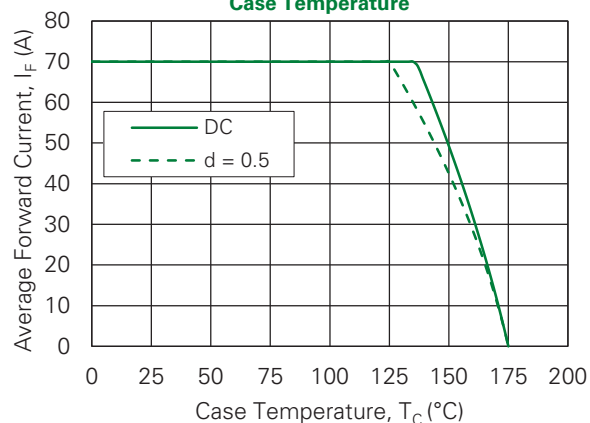


Figure 5. Forward Power Loss Characteristics

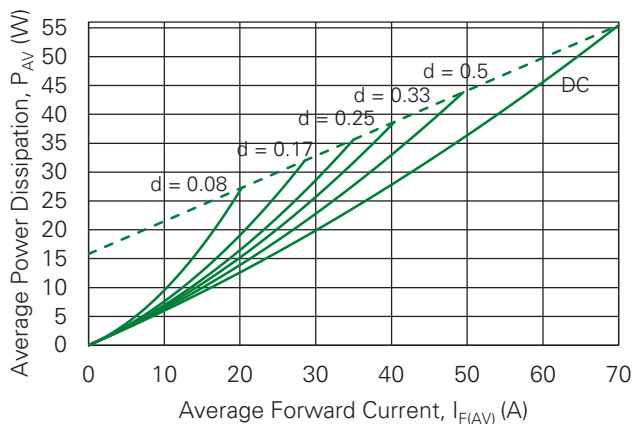
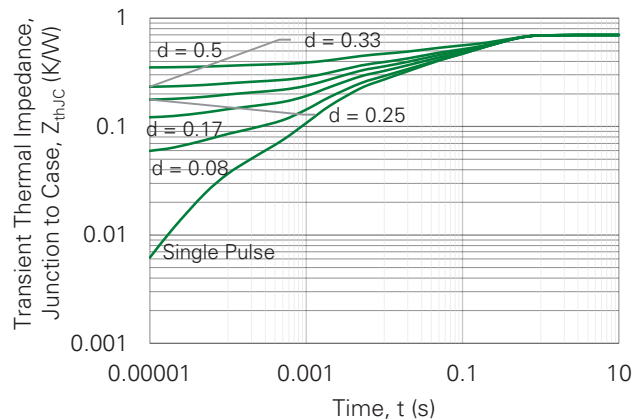


Figure 6. Transient Thermal Impedance



Technical drawing of a cable gland (type 1) showing three views: front, side, and cross-sectional views (A-A).

Front View Dimensions:

- E : Overall width
- Q : Flange thickness
- $2 \times E2$: Flange diameter
- S : Flange height
- D : Overall height
- $L1$: Mounting hole diameter
- L : Mounting hole distance
- b : Mounting hole diameter
- $2 \times b1$: Mounting hole distance
- $b2$: Mounting hole diameter
- $2 \times e$: Mounting hole distance

Side View Dimensions:

- A : Overall length
- $A2$: Flange thickness
- $A1$: Mounting hole diameter
- C : Mounting hole distance

Cross-sectional View (A-A) Dimensions:

- ϕP : Mounting hole diameter
- $\phi P1$: Mounting hole diameter
- $D1$: Mounting hole distance
- $E1$: Mounting hole distance

Symbol	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	0.189	0.205	4.80	5.20
A1	0.090	0.10	2.29	2.54
A2	0.075	0.083	1.90	2.10
b	0.043	0.051	1.10	1.30
b1	0.075	0.087	1.91	2.20
b2	0.115	0.126	2.92	3.20
c	0.020	0.027	0.50	0.70
D	0.819	0.840	20.80	21.34
D1	0.686	0.702	17.43	17.83
E	0.620	0.635	15.75	16.13
E1	0.514	0.530	13.06	13.46
E2	0.170	0.190	4.32	4.83
e	0.215 BSC		5.45 BSC	
L	0.781	0.797	19.85	20.25
L1	–	0.177	–	4.49
Ø P	0.140	0.144	3.55	3.65
Ø P1	0.281-	0.285	7.14	7.24
Q	0.220	0.244	5.59	6.19
S	0.242 BSC		6.15 BSC	

IXYS
DSA90C200HB
YYWWWZ
XXXX

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

Part Number	Marking	Packing Mode	Quantity
DSA90C200HB	DSA90C200HB	Tube	30 pcs/ tube

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