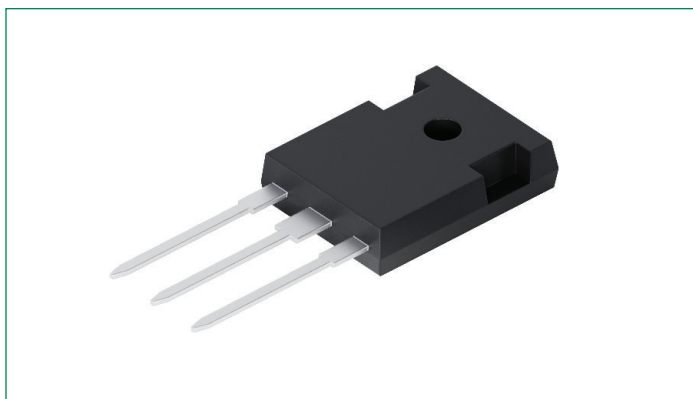


DSA60C45HB

45 V, 2 x 30 A High-Performance Schottky Diode

Low Loss and Soft Recovery Common Cathode

RoHS



Features

- Extremely low switching losses
- Very low V_F

Benefits

- Low voltage peaks for reduced protection circuits
- High reliability circuit operation
- Low-noise switching
- Improved thermal behavior
- Longer lifetime of the system

Applications

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

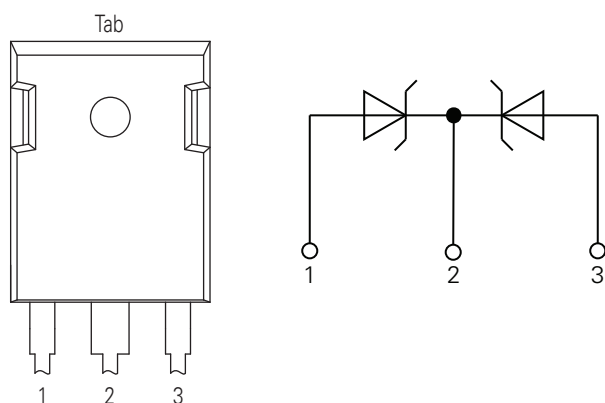
Package

- RoHS compliant
- Epoxy meets UL 94V-0
- Industry standard outline

Product Summary

Characteristic	Value	Unit
V_{RRM}	45	V
$I_{F(AV)}$	2 x 30	A
V_F	0.71	V

Pinout Diagram (TO-247)



1: Anode; **2:** Cathode ; **3:** Anode; **Tab:** Cathode

Maximum Ratings

Symbol	Characteristics	Condition	Value	Units
V_{RSM}	Non-repetitive Reverse Blocking Voltage	$T_{vj} = 25\text{ }^{\circ}\text{C}$	45	V
V_{RRM}	Repetitive Reverse Blocking Voltage	$T_{vj} = 25\text{ }^{\circ}\text{C}$	45	V
$I_{F(AV)}$	Average Forward Current	$T_c = 159\text{ }^{\circ}\text{C}, T_{vj} = 175\text{ }^{\circ}\text{C},$ Rectangular $d = 0.5$	30	A
I_{FSM}	Non-repetitive Forward Surge Current	$t = 10\text{ ms}, (50\text{ Hz}), \text{ half sine}, T_{vj} = 45\text{ }^{\circ}\text{C}$	450	A
$V_{(FO)}$	Threshold Voltage	$T_{vj} = 175\text{ }^{\circ}\text{C}$	0.41	V
r_F	Slope Resistance		4.8	m Ω
P_{tot}	Total Power Dissipation	$T_c = 25\text{ }^{\circ}\text{C}$	168	W
T_{stg}	Storage Temperature Range	–	-55 to +150	$^{\circ}\text{C}$
T_{vj}	Virtual Junction Temperature Range	–	-55 to +175	$^{\circ}\text{C}$
T_{op}	Operating Temperature Range	–	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics – Static

Symbol	Characteristics	Conditions	Value			Units
			Min.	Typ.	Max.	
I_R	Reverse Current	$V_R = 45\text{ V}, T_{vj} = 25\text{ }^{\circ}\text{C}$	–	–	0.6	mA
		$V_R = 45\text{ V}, T_{vj} = 125\text{ }^{\circ}\text{C}$	–	–	21	
V_F	Forward Voltage	$I_F = 30\text{ A}; \text{ Pulse}, T_{vj} = 25\text{ }^{\circ}\text{C}$	–	–	0.77	V
		$I_F = 60\text{ A}; \text{ Pulse}, T_{vj} = 25\text{ }^{\circ}\text{C}$	–	–	0.96	
		$I_F = 30\text{ A}; \text{ Pulse}, T_{vj} = 125\text{ }^{\circ}\text{C}$	–	–	0.71	
		$I_F = 60\text{ A}; \text{ Pulse}, T_{vj} = 125\text{ }^{\circ}\text{C}$	–	–	0.88	
C_j	Junction Capacitance	$V_R = 5\text{ V}, f = 1\text{ MHz}, T_{vj} = 25\text{ }^{\circ}\text{C}$	–	990	–	pF

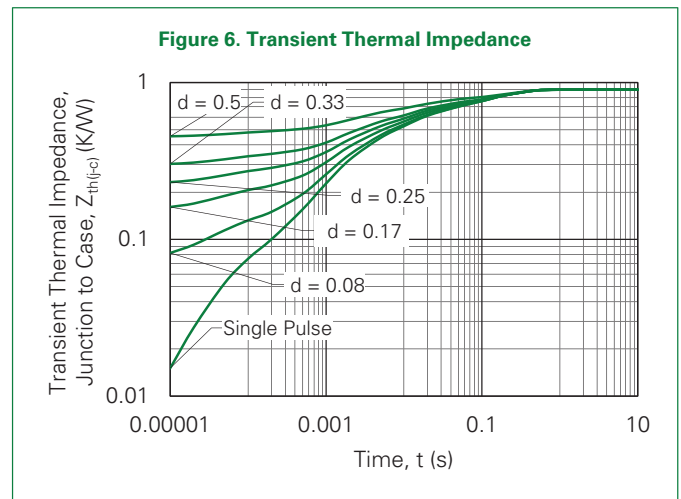
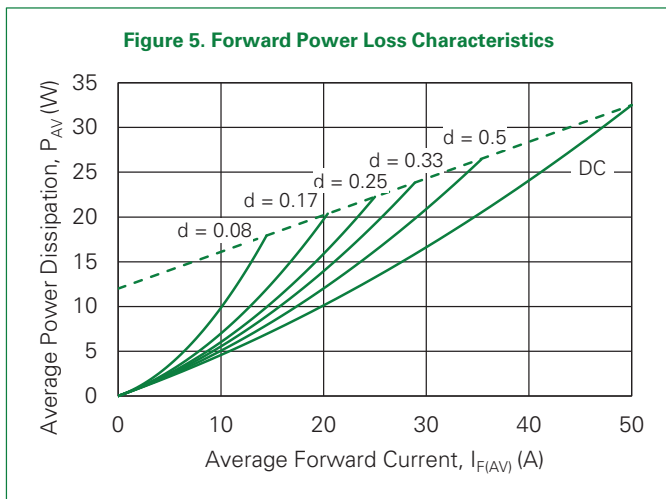
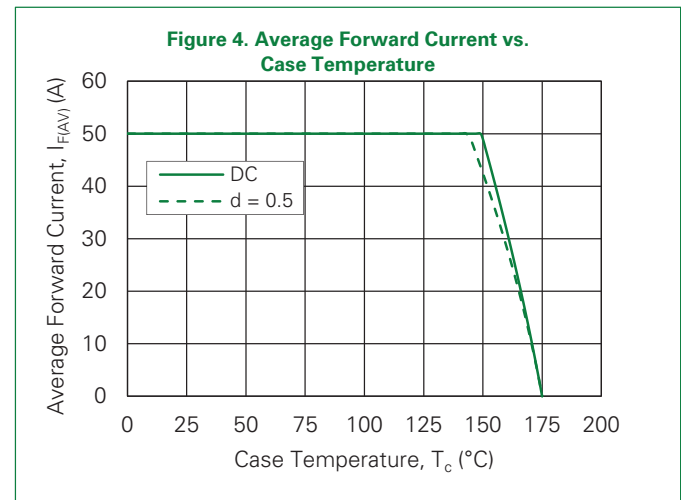
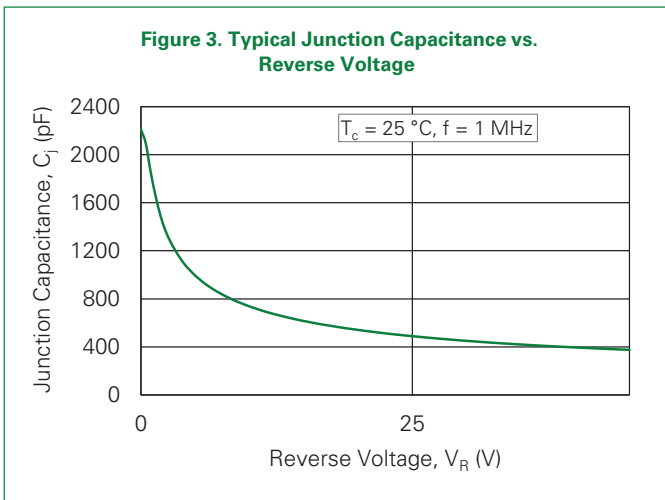
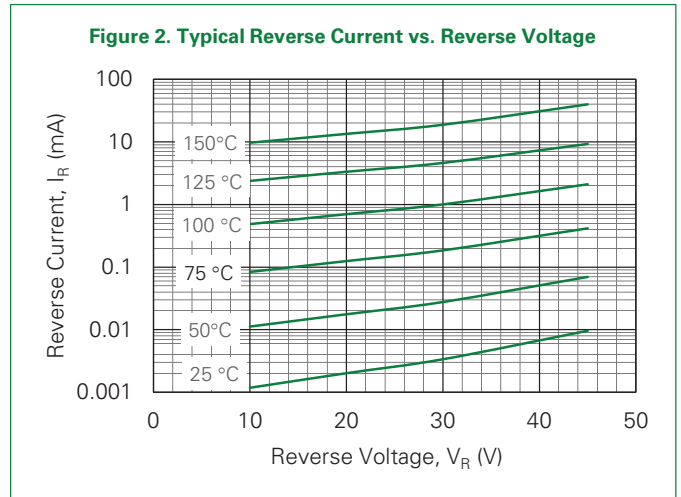
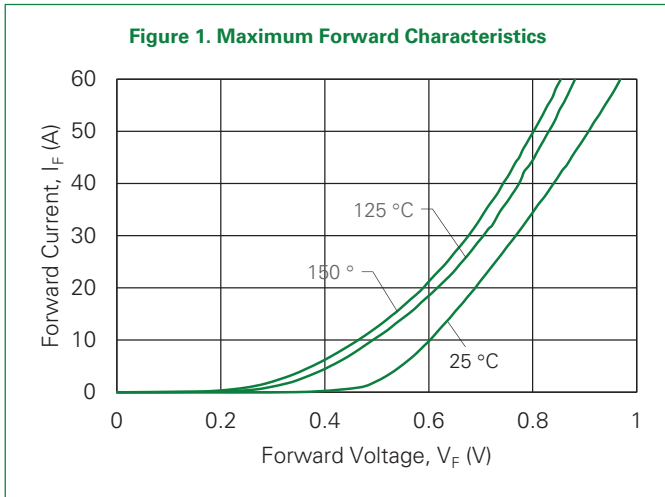
Thermal Specifications

Symbol	Characteristics	Value			Units
		Min.	Typ.	Max.	
$R_{th(j-c)}$	Thermal Resistance, Junction to Case	–	–	0.9	K/W
$R_{th(c-h)}$	Thermal Resistance, Case to Heatsink	–	0.3	–	K/W

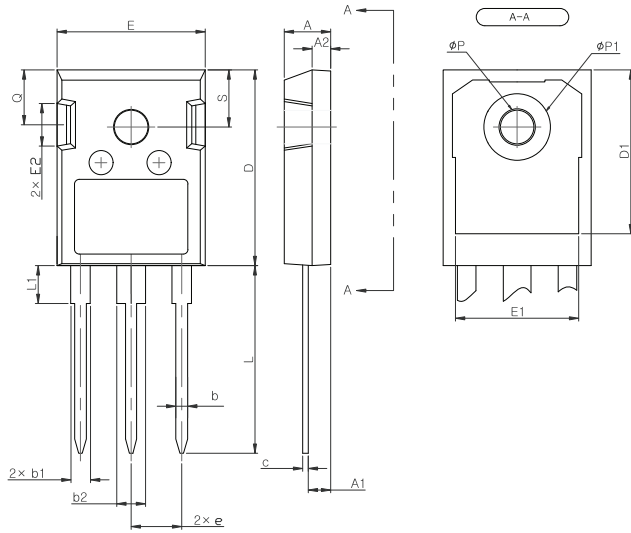
Package (TO-247)

Symbol	Characteristics	Conditions	Value			Units
			Min.	Typ.	Max.	
I_{tRMS}	RMS Current	per terminal	–	–	50	A
M_s	Mounting Torque for Screw to Heatsink	–	0.8	–	1.2	Nm
F_C	Mounting Force with Clip	–	20	–	120	N
G	Weight	–	–	6	–	g

Characteristic Curves

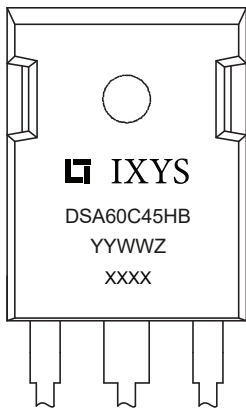


Part Outline Drawing (TO-247)



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	

Part Number and Marking



- D = Diode
- S = Schottky Diode
- A = Low V_F
- 60 = Current (2 x 30 A)
- C = Common Cathode
- 45 = Voltage (45 V)
- HB = Package (TO-247)
- YY = Year
- WW = Work Week
- Z = Plant Location Code
- xxxx = Lot Number

Ordering Information

Part Number	Marking	Packing Mode	Quantity
DSA60C45HB	DSA60C45HB	Tube	30 pcs/ tube

Disclaimer Notice

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Part of:

