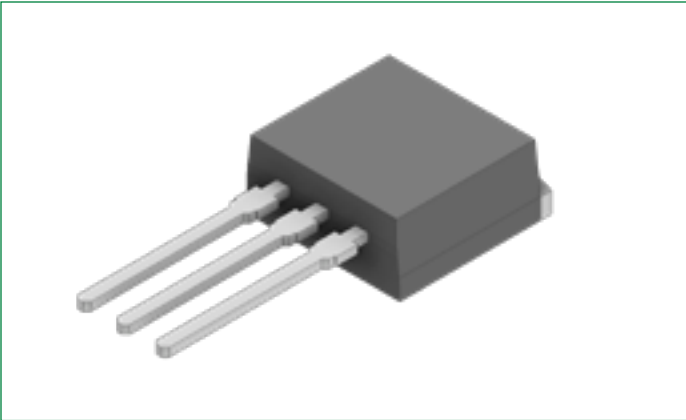


# DSA30C200IB

## 200 V, 30 A Schottky Rectifier Diode

RoHS

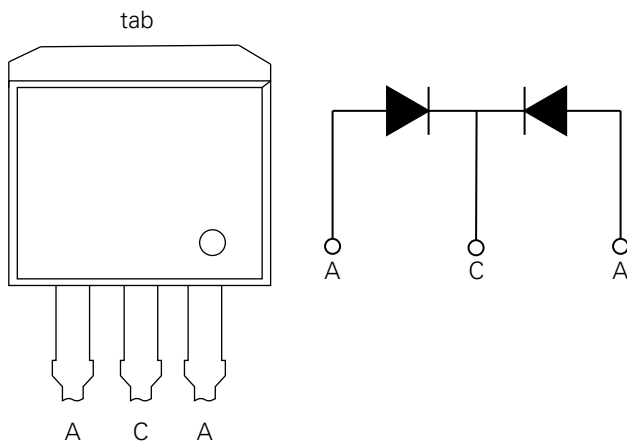
Pb



### 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-262)



**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
$V_{RRM}$	200	V
$I_{FAV}$	2 x 15	A
$V_F$	0.78	V

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

Symbol	Characteristics	Condition	Max.	Units
$V_{RRM}$	Peak Repetitive Reverse Voltage	—	200	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	15 (Per Leg)	A
			30 (Per Device)	
$I_{FSM}$	Peak One Cycle Non-Repetitive Surge Current (Per Leg)	10 ms, Half Sine pulse, $T_{VJ} = 25^\circ\text{C}$	300	A
$P_{tot}$	Total power dissipation	$T_{VJ} = 25^\circ\text{C}$	85	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) <sup>1</sup>	@ 15 A, Pulse, $T_{VJ} = 25^\circ\text{C}$	—	0.94	V
$V_{F2}$		@ 15 A, Pulse, $T_{VJ} = 125^\circ\text{C}$	—	0.78	V
$I_{R1}$	Reverse Current (Per Leg) <sup>1</sup>	@ $V_R = \text{rated } V_R$ , $T_{VJ} = 25^\circ\text{C}$	—	250	$\mu\text{A}$
$I_{R2}$		@ $V_R = \text{rated } V_R$ , $T_{VJ} = 125^\circ\text{C}$	—	2.5	mA
$C_T$	Junction Capacitance (Per Leg)	@ $V_R = 24\text{ V}$ , $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{ MHz}$	100	—	pF

**Note 1:** Pulse width < 300  $\mu\text{s}$ , 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	$^\circ\text{C}$
$F_C$	Mounting force with clip	—	Min 20 Max 60	N
$R_{thJC}$	Maximum Thermal Resistance Junction to Case	DC operation	1.75	K/W
$R_{thCS}$	Typical Thermal Resistance Case to Heat Sink	—	0.25	K/W
wt	Approximate Weight	—	1.85	g

Characteristic Curves

Fig. 1. Typical Forward Characteristics

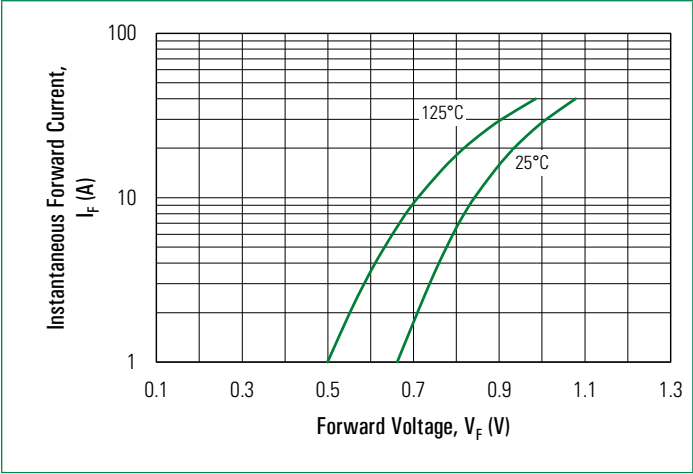


Fig. 2. Typical Reverse Characteristics

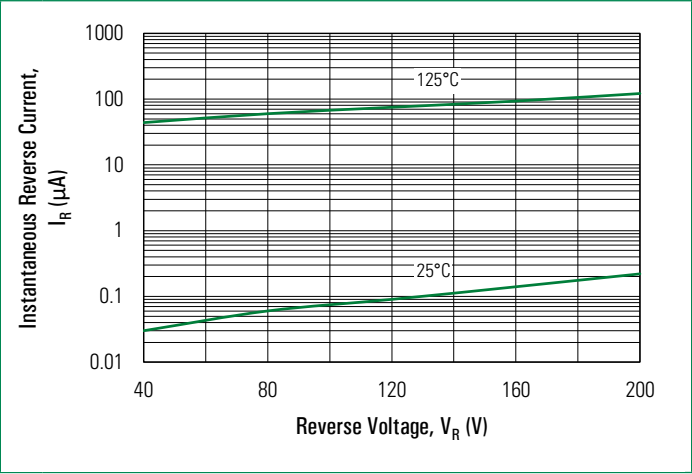
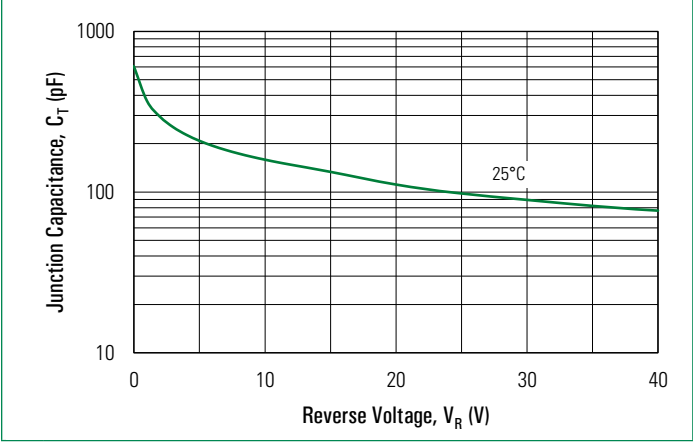
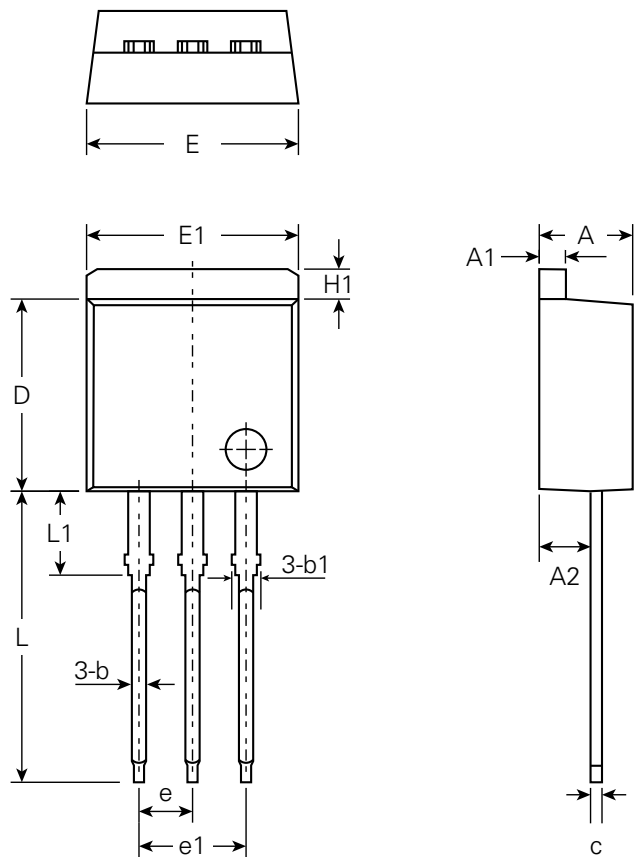


Fig. 3. Typical Junction Capacitance

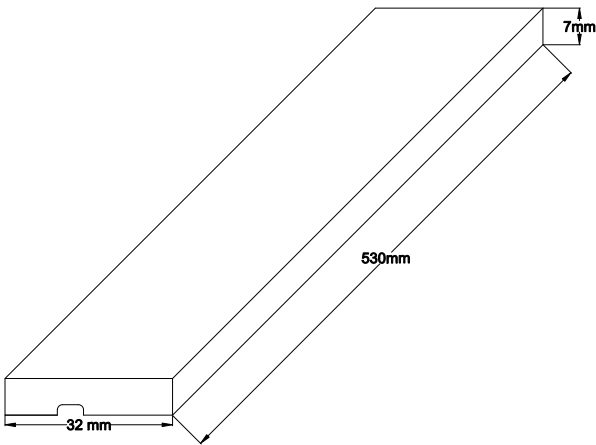


Part Outline Drawing (TO-262)

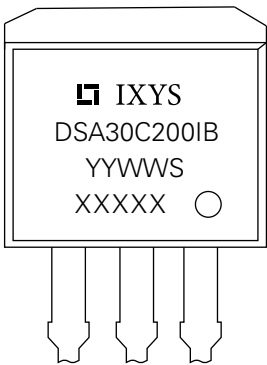


Symbol	Inches			Millimeters		
	Min.	Typical	Max.	Min.	Typical	Max.
A	0.159	0.174	0.190	4.06	4.44	4.83
A1	0.044	0.05	0.055	1.14	1.27	1.40
A2	0.079	0.094	0.109	2.03	2.41	2.79
b	0.025	0.029	0.037	0.64	0.76	0.96
b1	0.044	0.053	0.057	1.14	1.37	1.47
c	0.014	0.022	0.025	0.36	0.56	0.64
D	0.336	0.359	0.379	8.55	9.14	9.65
E	0.379	0.394	0.405	9.65	10.03	10.31
E1	0.379	0.394	0.405	9.65	10.03	10.29
e	–	0.1	–	–	2.54	–
e1	–	–	–	–	–	–
H1	–	–	0.055	–	–	1.40
L	0.5	0.544	0.579	12.7	13.82	14.73
L1	–	0.149	–	–	3.8	–

Packing Specifications



Part Number and Marking



- D Diode
- S = Schottky Diode
- A = Low VF
- 30 = Forward Current
- C = Common Cathode
- 200 = Reverse Voltage
- IB = Package Code (TO-262)
- YY = Year
- WW = Work Week
- S = Plant Location Code
- XXXXX = Lot Number

Ordering Information

Part Number	Marking	Packing Mode	Quantity
DSA30C200IB	DSA30C200IB	Tube	50 pcs/ tube

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Part of:

