

WS3B002500V

Silicon Carbide Schottky Diode

V_{RRM}	=	5000	V
$I_F (T_C \leq 75^\circ\text{C})$	=	2	A
I_{FSM}	=	60	A

Features

- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- Positive Temperature Coefficient on V_F
- Temperature-independent Switching
- 175°C Operating Junction Temperature

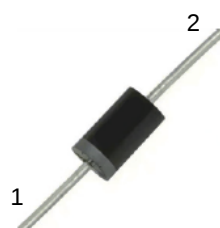
Benefits

- Replace Bipolar with Unipolar Device
- Reduction of Heat Sink Size
- Parallel Devices Without Thermal Runaway
- Essentially No Switching Losses

Applications

- Medical Electronics
- High Voltage Pulse Power Supplies

Package



DO-201AD



Part Number	Package	Marking
WS3B002500V	DO-201AD	WS3B002500V

Maximum Ratings

Symbol	Parameter	Value	Unit	Test Conditions	Note
V_{RRM}	Repetitive Peak Reverse Voltage	5000	V	$T_C = 25^\circ\text{C}$	
V_{RSM}	Surge Peak Reverse Voltage	5000	V	$T_C = 25^\circ\text{C}$	
V_R	DC Blocking Voltage	5000	V	$T_C = 25^\circ\text{C}$	
I_F	Forward Current	2.0 1.0	A	$T_C \leq 75^\circ\text{C}$ $T_C \leq 125^\circ\text{C}$	
I_{FSM}	Non-Repetitive Forward Surge Current	60	A	$T_C = 25^\circ\text{C}$, $t_p = 8.3\text{ms}$, Half Sine Wave	
P_{tot}	Power Dissipation	20	W	$T_C = 25^\circ\text{C}$	-
T_J, T_{STG}	Operating Junction and Storage Temperature	-55 to 175	$^\circ\text{C}$		

Electrical Characteristics

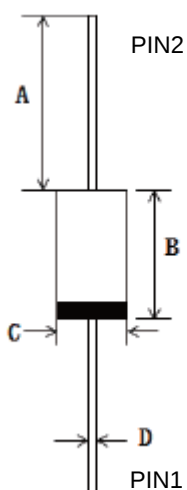
Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
V_F	Forward Voltage	2.4	3.5	V	$I_F = 1A, T_J = 25^{\circ}C$	-
		5.0	/		$I_F = 1A, T_J = 175^{\circ}C$	
		3.6	4.5	V	$I_F = 2A, T_J = 25^{\circ}C$	
		6.5	/		$I_F = 2A, T_J = 175^{\circ}C$	
I_R	Reverse Current	5	50	μA	$V_R = 5000V, T_J = 25^{\circ}C$	-
		50	500		$V_R = 5000V, T_J = 175^{\circ}C$	
C	Total Capacitance	15	/	pF	$V_R = 50V, T_J = 25^{\circ}C, f = 1MHz$	
t_{rr}	Reverse Recovery Time	30	/	ns	$I_F = 0.5A, T_J = 25^{\circ}C$	

Thermal Characteristics

Symbol	Parameter	Typ.	Unit	Note
$R_{\theta JC}$	Thermal Resistance from Junction to Case	7.5	$^{\circ}C/W$	-

Package Dimensions

Package DO-201AD



mbol	Min. (mm)	Max. (mm)
A	24.20	-
B	8.40	9.60
C	4.90	5.70
D	1.00	1.40

Notes

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