



3300V/3A Silicon Carbide Power Schottky Barrier Bare Die

Features

- Zero reverse recovery current
- Zero forward recovery voltage
- Temperature independent switching behaviour
- High temperature operation
- High frequency operation

Key Characteristics		
V_{RRM}	3300	V
I_F	3	A
Q_C	51.1	nC

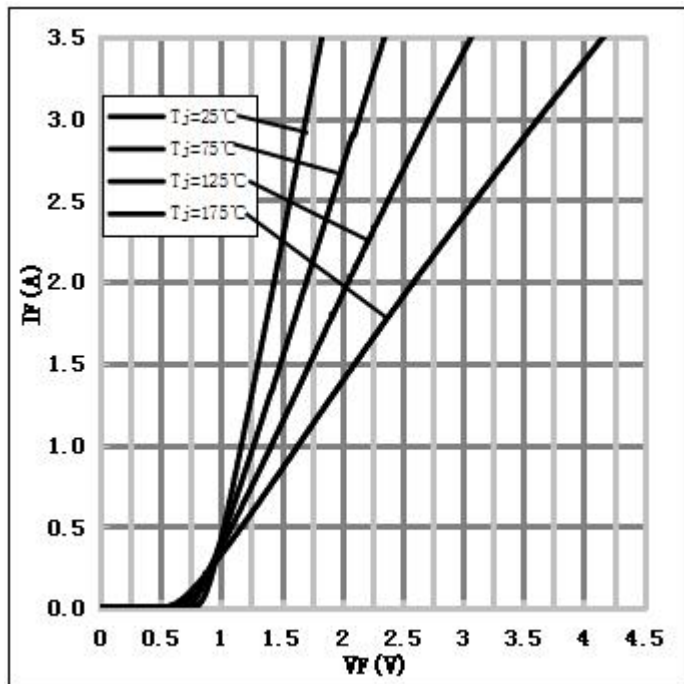
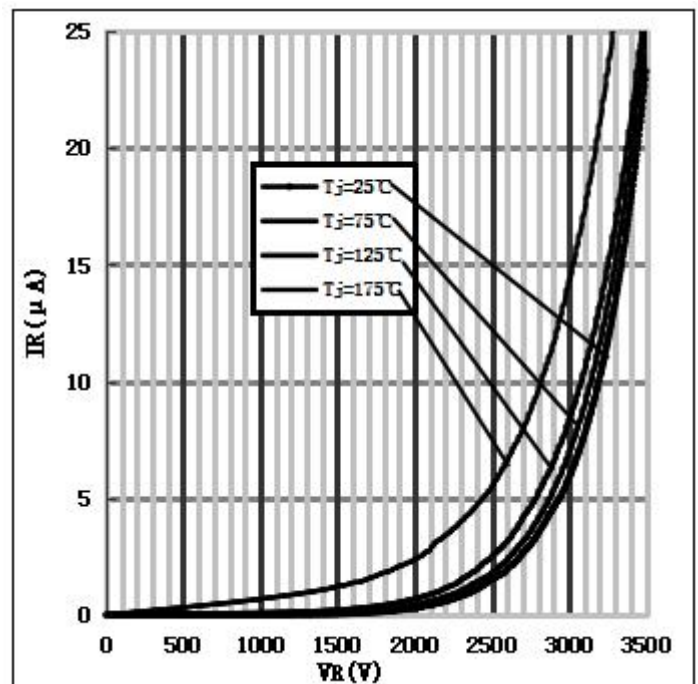
Part No.	Anode	Cathode	Shipment
GW1-S33003	Al	Ag	box

Maximum Ratings

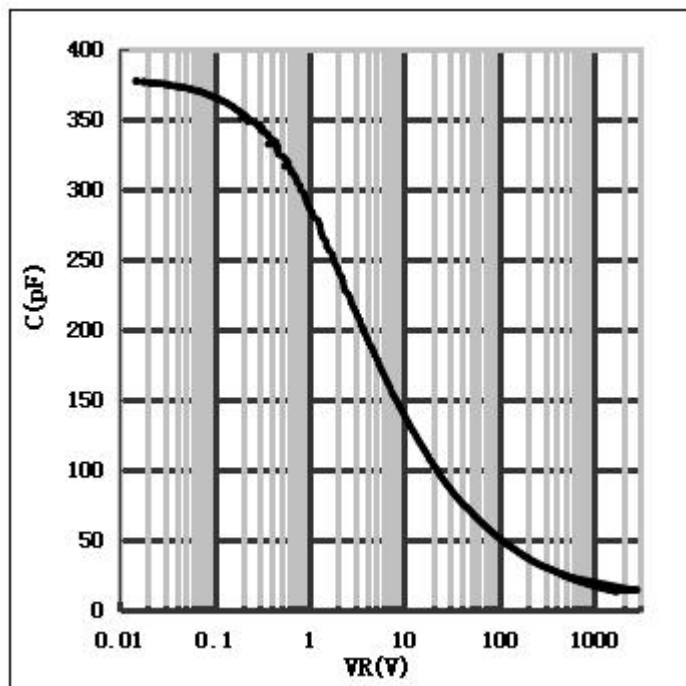
Parameter	Symbol	Test Condition	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}		3300	V
Surge Peak Reverse Voltage	V_{RSM}		3300	V
DC Blocking Voltage	V_{DC}		3300	V
Continuous Forward Current	I_F	$T_C = 25^\circ\text{C}$	3	A
Repetitive Peak Forward Surge Current	I_{FRM}	$T_C = 25^\circ\text{C}$, $t_p = 10\text{ms}$, Half Sine pulse, $D = 0.3$	15	A
Non-repetitive Peak Forward Surge Current	I_{FSM}	$T_C = 25^\circ\text{C}$, $t_p = 10\text{ms}$, Half Sine Wave	24	A
Operating Junction	T_j		-55°C to 175°C	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55°C to 175°C	$^\circ\text{C}$

Electrical Characteristics

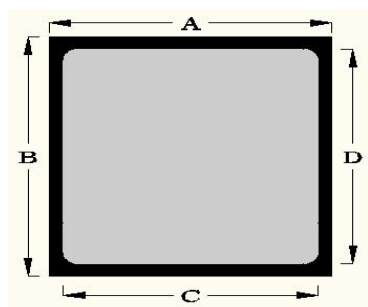
Parameter	Symbol	Test Conditions	Numerical		Unit
			Typ.	Max.	
Forward Voltage	V_F	$I_F=3A, T_j=25^{\circ}C$	1.7	2	V
		$I_F=3A, T_j=175^{\circ}C$	3.65	4	
Reverse Current	I_R	$V_R=3300V, T_j=25^{\circ}C$	6	50	μA
		$V_R=3300V, T_j=175^{\circ}C$	25	100	
Total Capacitive Charge	Q_C	$V_R=2200V, T_j=150^{\circ}C$ $Q_C = \int_0^{V_R} C(V) dV$	51.1	-	nC
Total Capacitance	C	$V_R=0V, T_j=25^{\circ}C, f=1MHz$	375	400	pF
		$V_R=1000V, T_j=25^{\circ}C, f=1MHz$	18	18.5	
		$V_R=2000V, T_j=25^{\circ}C, f=1MHz$	14	14.5	

Performance Graphs1) Forward IV characteristics as a function of T_j :2) Reverse IV characteristics as a function of T_j :

3) Capacitance vs. reverse voltage:

Size

Parameter	Size	Unit
Chip size	2.6*2.5	mm
Anode metal size	1.96*1.86	mm
Anode window	1.52*1.42	mm
Thickness	375±25	um
Wafer size	100	mm
Anode metal thickness(AL)	4	um
Cathode metal thickness(Ag)	1.2	um
Front cover	Polyimide	

Chip size

symbol	size	
	mm	inch
A	2.6	0.102
B	2.5	0.098
C	1.52	0.077
D	1.42	0.073

Note: The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU Directive 2011/65/EC(RoHS2). RoHS Certification and other certifications can be obtained from GPT sales representatives or GPT website: <http://globalpowertech.cn/English/index.asp>

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