

V_{RRM}	1200V
I_F	10A/20A($T_C=159^{\circ}C$)
Q_C	52/104nC

1200V SILICON CARBIDE
SCHOTTKY DIODE

◆ Features

- Negligible reverse recovery
- High-speed switching
- Positive Temperature Coefficient
- Temperature-Independent Switching
- RoHS compliant



◆ Benefits

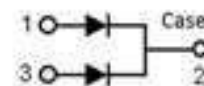
- Higher frequency
- Low heat dissipation requirements
- Reduce size and cost of the system
- High-reliability



TO-247AB

◆ Applications

- Switch mode power supply
- Solar inverter
- Data Center
- Uninterruptible power supply



Maximum Ratings (T_c=25°C unless otherwise noted)

Symbol	Parameter		Value	Unit	Note
V _{RRM}	Repetitive peak reverse voltage		1200	V	
I _F	Continuous forward current	T _c =25°C	36/72	A	Figure 3
		T _c =135°C	18/36	A	
		T _c =159°C	10/20	A	
I _{FSM}	Non-repetitive forward surge current	T _c =25°C, t _p =10ms, Half sine pulse	60/120	A	
		T _c =110°C, t _p =10ms, Half sine pulse	45/90	A	
I _{FRM}	Repetitive Peak Forward Surge Current	T _c =25°C, t _p =10ms, Half sine pulse	55/110	A	
∫i ² dt	i ² t value	T _c =25°C, t _p =10ms	18/72	A ² S	
		T _c =110°C, t _p =10ms	10/41	A ² S	
P _{tot}	Power Dissipation	T _c =25°C	204/408	W	Figure 4
		T _c =110°C	88/176	W	
		T _c =150°C	34/68	W	
T _j , T _{stg}	Operating and Storage Temperature		-55 to +175	°C	

Electrical Characteristics (T_c=25°C unless otherwise noted) (Per Leg)

Symbol	Parameter	Test Conditions	Value			Unit	Note
			Min.	Typ.	Max.		
V _{DC}	DC blocking voltage		1200	-	-	V	
V _F	Forward voltage	I _F =5A	-	1.20	-	V	Figure 1
		I _F =10A, T _c =25°C	-	1.43	1.70	V	
		I _F =10A, T _c =175°C	-	2.0	-	V	
I _R	Reverse current	V _R =1200V, T _c =25°C	-	2.0	60	µA	Figure 2
		V _R =1200V, T _c =175°C	-	4.0	-	µA	
Q _C	Total capacitive charge	V _R =800V	-	52	-	nC	Figure 6
C	Total capacitance	V _R =1V, f=1MHZ	-	546	-	pF	Figure 5
		V _R =400V, f=1MHZ	-	47	-	pF	
		V _R =800V, f=1MHZ	-	41	-	pF	
E _C	Capacitance Stored Energy	V _R =800V	-	15.86	-	µJ	Figure 7

Thermal Characteristics (Per Leg)

Symbol	Parameter	Value		Unit	Note
		Typ.	Max.		
R _{th(j-c)}	Thermal resistance (Junction to case)	0.736	-	°C/W	Figure 8

Electrical Characteristic Curves (Per Leg)

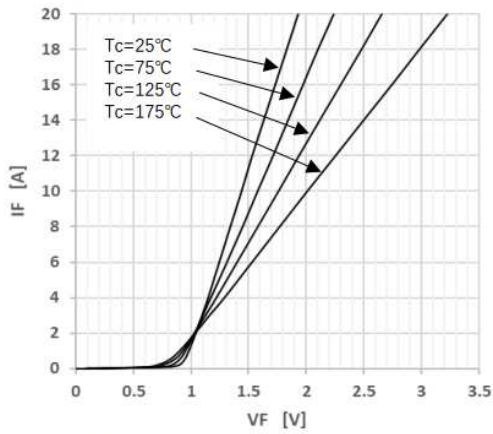


Figure 1 Forward Characteristics

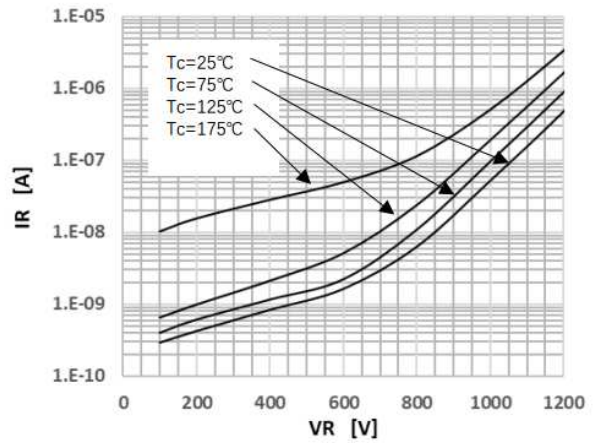


Figure 2 Reverse Characteristics

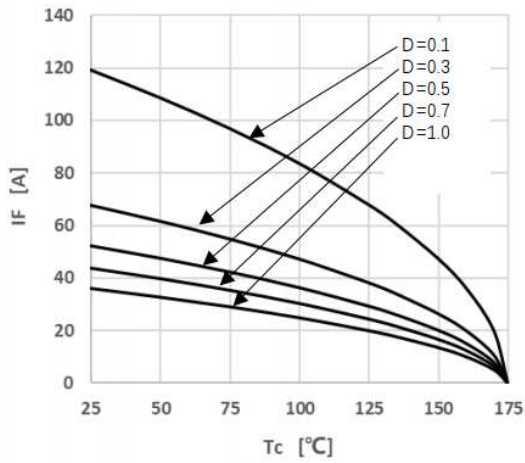


Figure 3 Peak Forward Current Derating

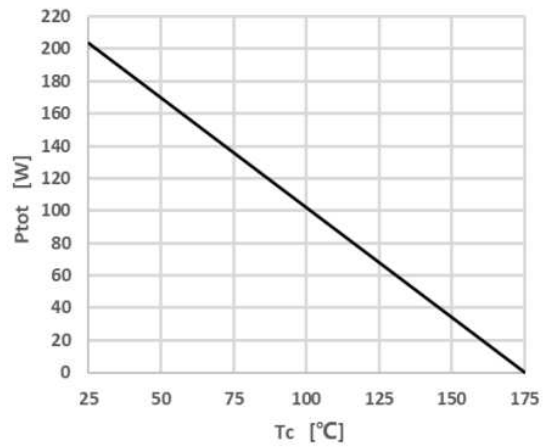
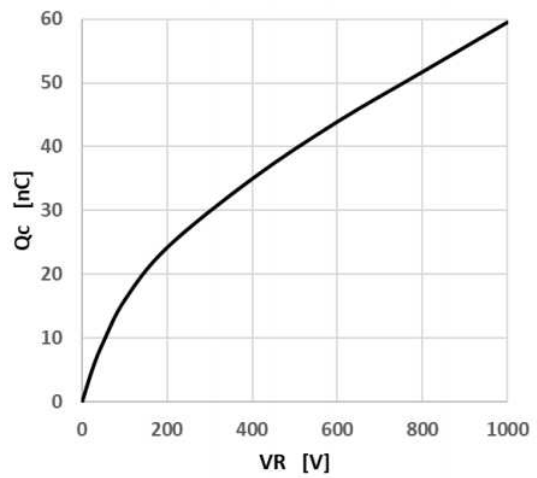
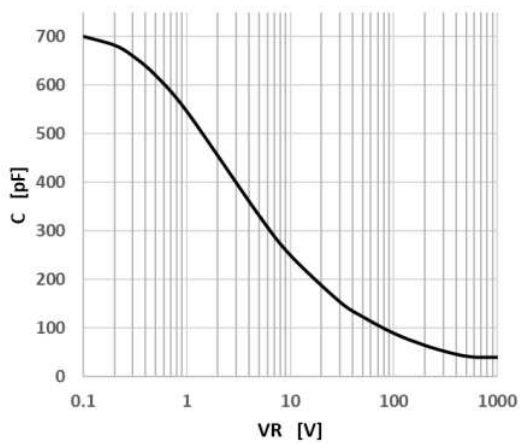
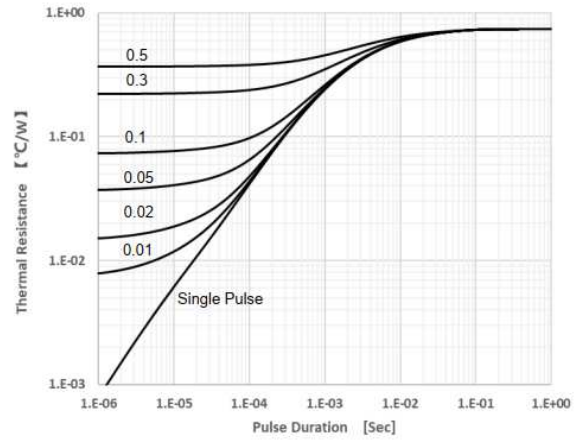
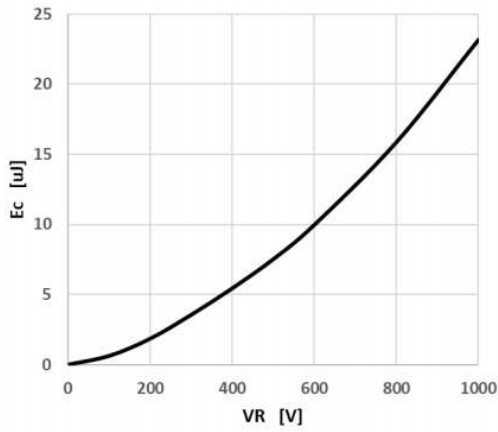
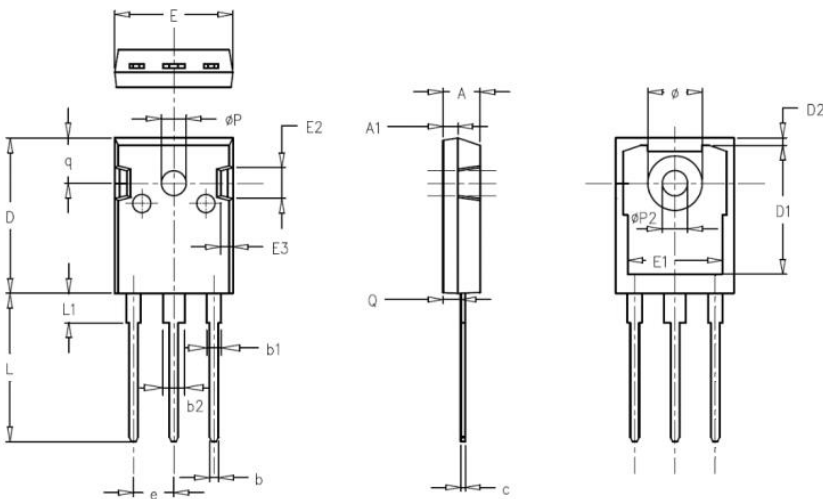


Figure 4 Power Dissipation





TO-247AB Package Dimensions : (Unit : mm)



SYMBOL	MILLIMETERS			NOTES	SYMBOL	MILLIMETERS			NOTES
	Normal	MIN.	MAX.			Normal	MIN.	MAX.	
A	4.98	4.68	5.36		φP	3.66	3.45	3.85	
A 1	1.99	1.90	2.10		e	5.44	BSC		
Q	2.41	2.30	2.60		q	6.24	5.99	6.58	
c	0.60	0.48	0.72		φP2	3.45	3.24	3.64	
b	1.20	1.00	1.40		φ	7.14	7.10	7.30	
b1	2.07	1.90	2.30		D1	16.56	16.10	17.10	
b2	3.07	2.90	3.30		D2	0.98	0.80	1.36	
D	21.10	20.80	21.80		E1	13.30	13.00	13.52	
E	15.98	15.38	16.20		E2	5.64	5.10	6.10	
L	20.28	19.50	20.50		E3	2.33	1.90	2.70	
L1	4.01	3.75	4.35						

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