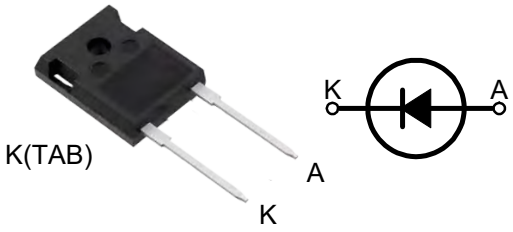
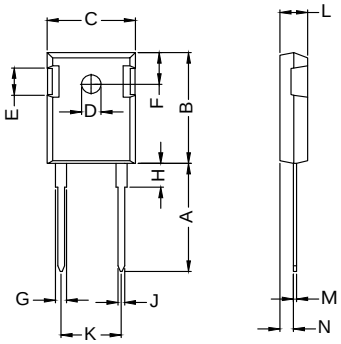
SCD15120B21

Silicon Carbide Schottky Barrier Diodes



A=Anode, K=Cathode, TAB=Cathode

Dimensions TO-247AC



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.620	0.640
ØD	3.15	3.65	0.124	0.144
E	4.32	5.49	0.170	0.216
F	5.40	6.30	0.213	0.248
G	1.65	2.13	0.065	0.084
H	3.80	4.50	0.150	0.177
J	1.00	1.40	0.039	0.055
K	10.80	11.10	0.425	0.437
L	4.70	5.30	0.185	0.209
M	0.40	0.80	0.016	0.031
N	1.50	2.49	0.059	0.098

	V_{RSM} V	V_{RRM} V
SCD15120B21	1200	1200

Symbol	Characteristics	Maximum Ratings	Unit
I_F	Continuous Forward Current Per Device @T_C=155°C @T_C=25°C	15 45	A
I_{FSM}	Non-Repetitive Peak Forward Surge Current tp=10ms, Half Sine Pulse@T_C=25°C	140	A
I_{FRM}	Repetitive Peak Forward Surge Current tp=10ms, Half Sine Pulse@T_C=25°C	68	A
V_F	Maximum Forward Voltage (Note 1) I_F=15A @T_J=25°C I_F=15A @T_J=175°C	1.5 ~ 1.8 2.2 ~ 3.0	V
I_R	Maximum DC Reverse Current At Rated DC Blocking Voltage @T_J=25°C @T_J=175°C	30 ~ 250 300 ~ 500	uA
R_{thjc}	Typical Thermal Resistance (Note 2)	0.60	°C/W
C_J	Typical Junction Capacitance (Note 3)	64	pF
T_J	Operating Temperature Range	-55 ~ +175	°C
T_{STG}	Storage Temperature Range	-55 ~ +125	°C

NOTES: 1. 300us Pulse Width, Duty Cycle 2%.
2. Thermal Resistance Junction To Case.
3. Measured At 1.0MHz And Applied Reverse Voltage of 400V DC.

FEATURES

* Zero Reverse Recovery Current
* High Frequency High Speed operation
* Temperature-Independent Switching Behavior
* Positive Temperature Coefficient on VF
* Plastic package has UL flammability classification 94V-0
* For use in high frequency inverters, free wheeling, and polarity protection applications
* RoHS compliant

MECHANICAL DATA

* Case: TO-247AC molded plastic
* Polarity: As marked on the body
* Weight: 6 grams
* Mounting position: Any

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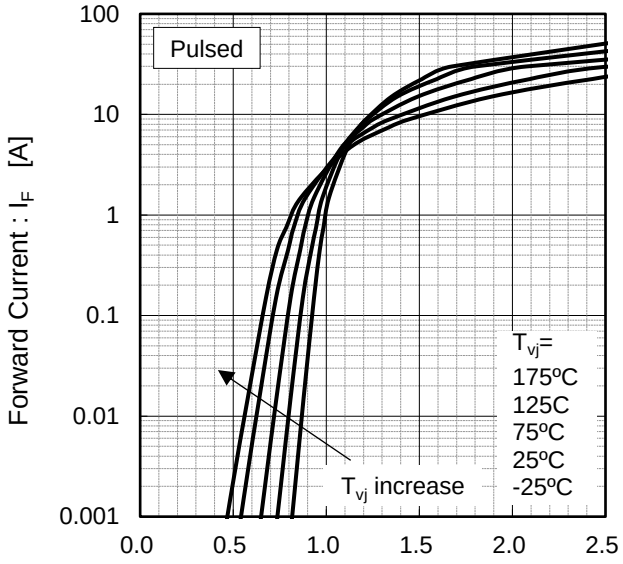

Fig.1 V_F - I_F Characteristics

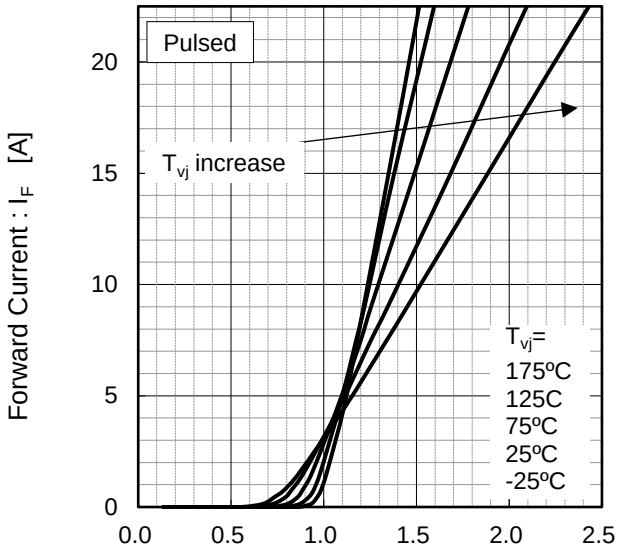

Fig.2 V_F - I_F Characteristics

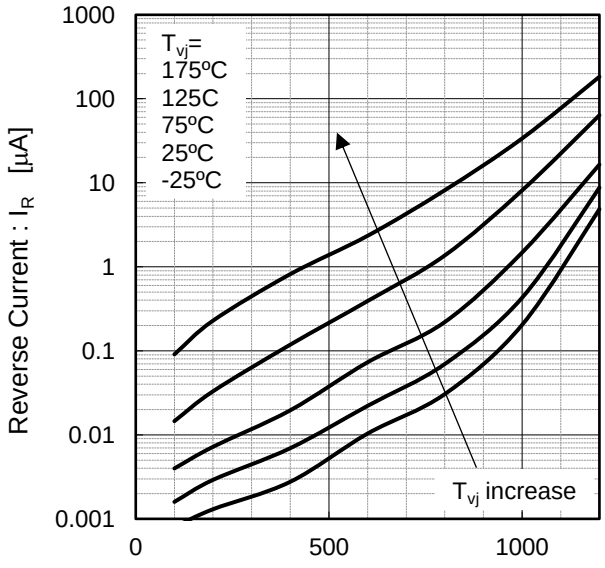

Fig.3 V_R - I_R Characteristics

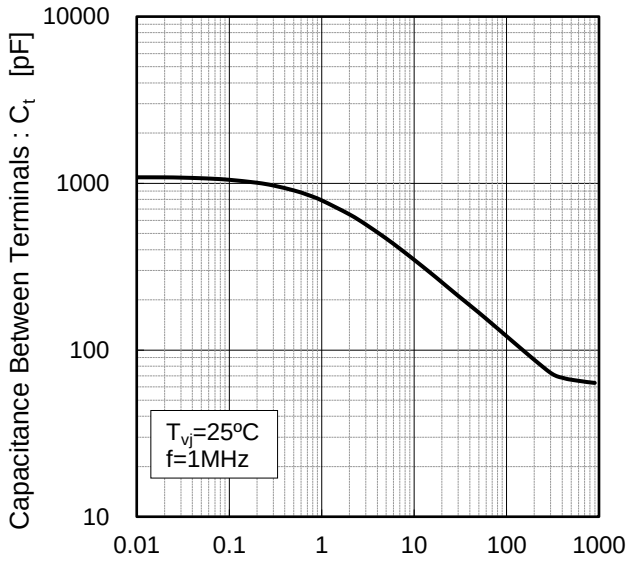

Fig.4 V_R-C_t Characteristics

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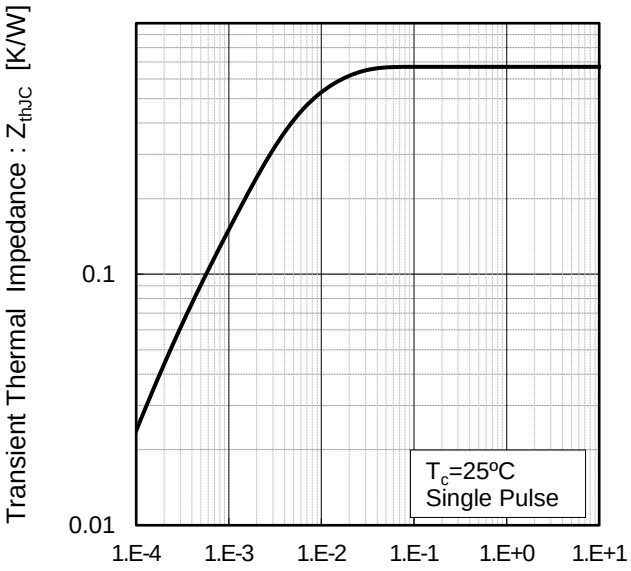


Fig.5 Typical Transient Thermal Impedance vs. Pulse Width

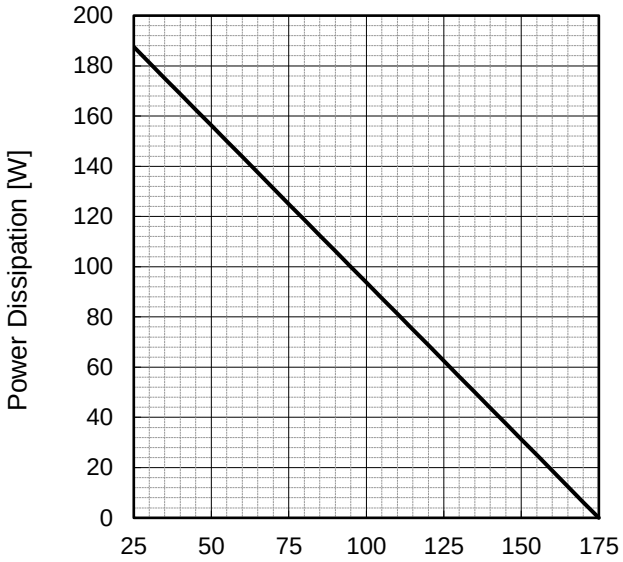
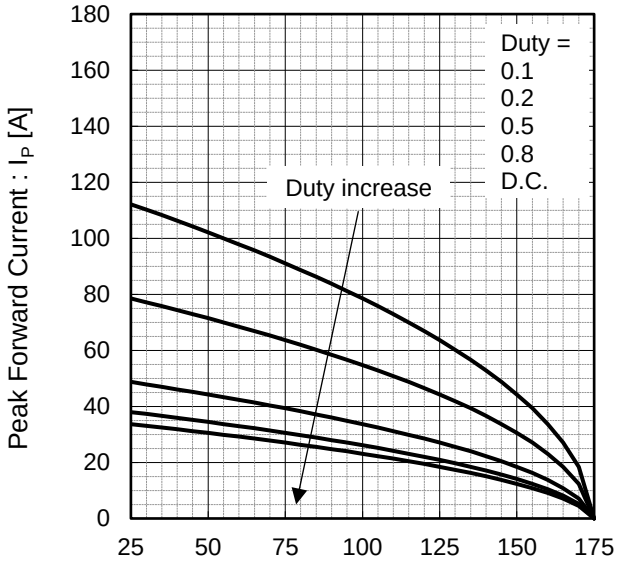
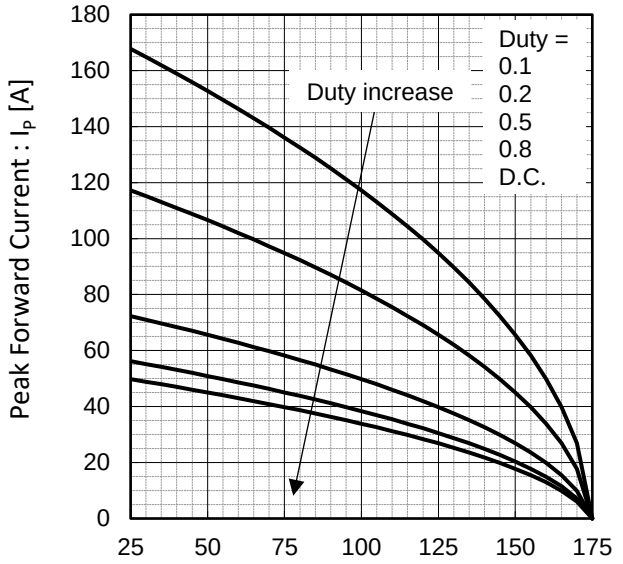


Fig.6 Power Dissipation



Based on max Vf, max R_{thJC} Valid for switching of above 10kHz, excluding D.C. curve.

Fig.7 Maximum peak forward current derating curve I_P - T_c



Based on typ Vf, typ R_{thJC} Typical value, not guaranteed Valid for switching of above 10kHz, excluding D.C. curve

Fig.8 Typical peak forward current derating curve I_P - T_c (Not guaranteed)

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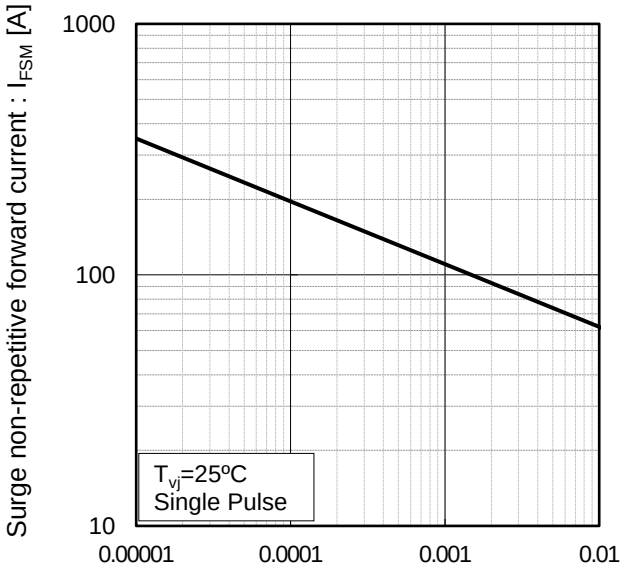


Fig.9 Surge non-repetitive forward current vs. Pulse width (Sinusoidal waveform)

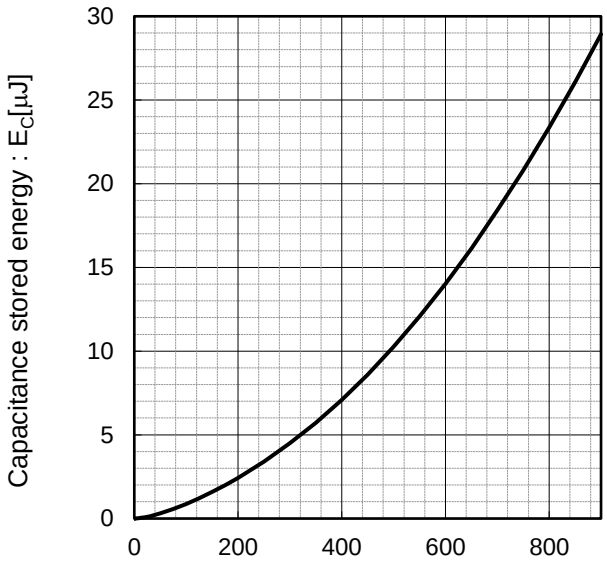
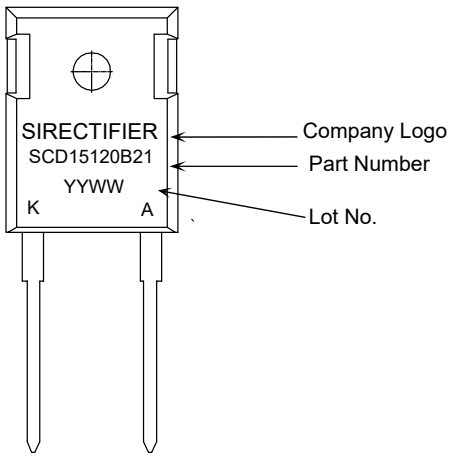


Fig.10 Typical capacitance store energy

MARKING



ORDERING INFORMATION

Part Number	Package	Shipping	Marking Code
SCD15120B21	TO-247AC	30pcs / Tube	SCD15120B21

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