SCS208AGHR

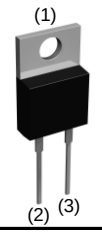
SiC Schottky Barrier Diode

Data Sheet

V_R	650V
I_F	8A
Q_C	13nC

●**AEC-Q101 Qualified**

TO-220AC



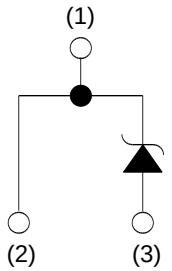
●**Features**

1) Shorter recovery time

2) Reduced temperature dependence

3) High-speed switching possible

●**Inner circuit**



(1) Cathode
(2) Cathode
(3) Anode

●**Packaging specifications**

Type	Packaging	Tube
	Reel size (mm)	-
	Tape width (mm)	-
	Basic ordering unit (pcs)	50
	Taping code	C
	Marking	SCS208AG

●**Construction**

Silicon carbide epitaxial planer schottky diode

●**Absolute maximum ratings** (Tj = 25°C)

Parameter	Symbol	Value	Unit
Reverse voltage (repetitive peak)	V_{RM}	650	V
Reverse voltage (DC)	V_R	650	V
Continuous forward current	I_F	8*[1]	A
Surge no repetitive forward current	I_{FSM}	31*[2]	A
		118*[3]	A
		25*[4]	A
Repetitive peak forward current	I_{FRM}	35*[5]	A
Total power disspation	P_D	68*[6]	W
Junction temperature	Tj	175	°C
Range of storage temperature	Tstg	−55 to +175	°C

*1 Tc=139°C *2 PW=8.3ms sinusoidal, Tj=25°C *3 PW=10μs square, Tj=25°C

*4 PW=8.3ms sinusoidal, Tj=150°C *5 Tc=100°C, Tj=150°C, Duty cycle=10% *6 Tc=25°C

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●Electrical characteristics (Tj = 25°C)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
DC blocking voltage	V_{DC}	I_R =0.16mA	600	-	-	V
Forward voltage	V_F	I_F=8A,Tj=25°C	-	1.35	1.55	V
		I_F=8A,Tj=150°C	-	1.55	-	V
		I_F=8A,Tj=175°C	-	1.63	-	V
Reverse current	I_R	V_R=600V,Tj=25°C	-	1.6	160	μA
		V_R=600V,Tj=150°C	-	24	-	μA
		V_R=600V,Tj=175°C	-	56	-	μA
Total capacitance	C	V_R=1V,f=1MHz	-	291	-	pF
		V_R=600V,f=1MHz	-	30	-	pF
Total capacitive charge	Qc	V_R=400V,di/dt=350A/μs	-	13	-	nC
Switching time	tc	V_R=400V,di/dt=350A/μs	-	13	-	ns

●Thermal characteristics

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Thermal resistance	$R_{th(j-c)}$	-	-	1.9	2.2	°C/W

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●Electrical characteristic curves

Fig.1 V_F - I_F Characteristics

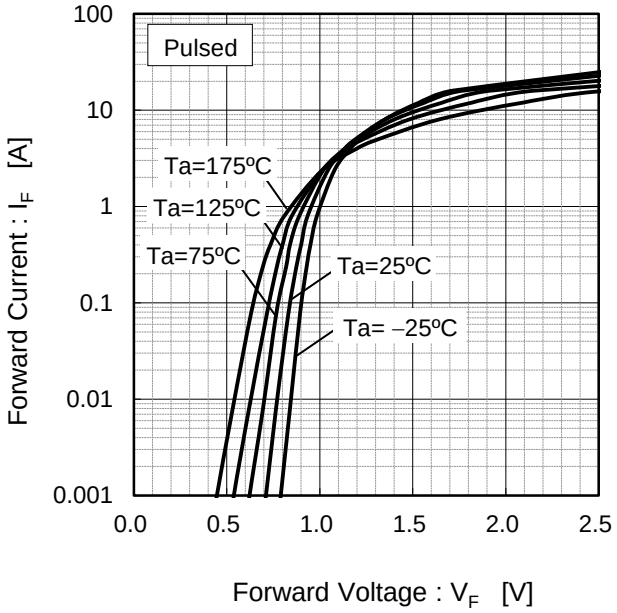


Fig.2 V_F - I_F Characteristics

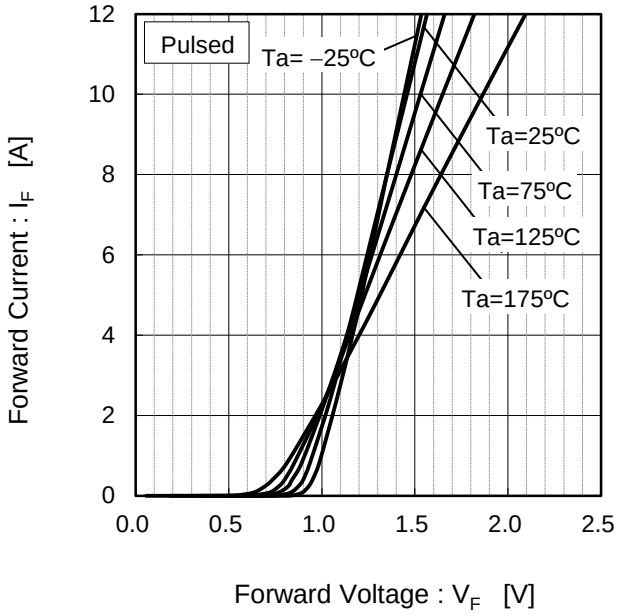


Fig.3 V_R - I_R Characteristics

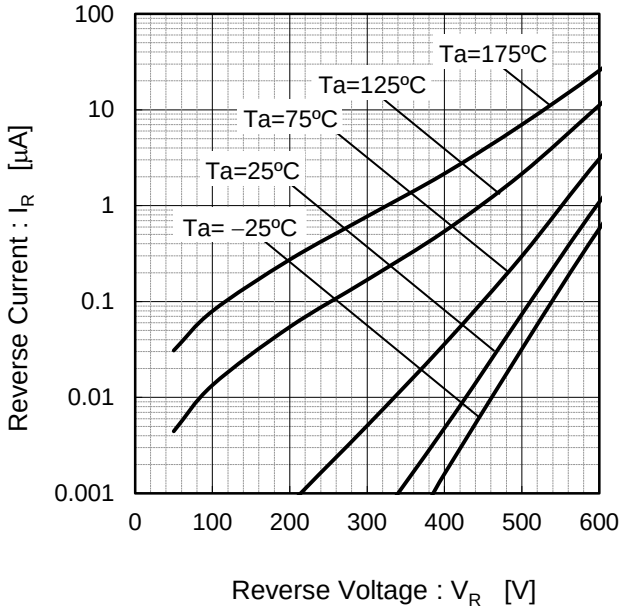
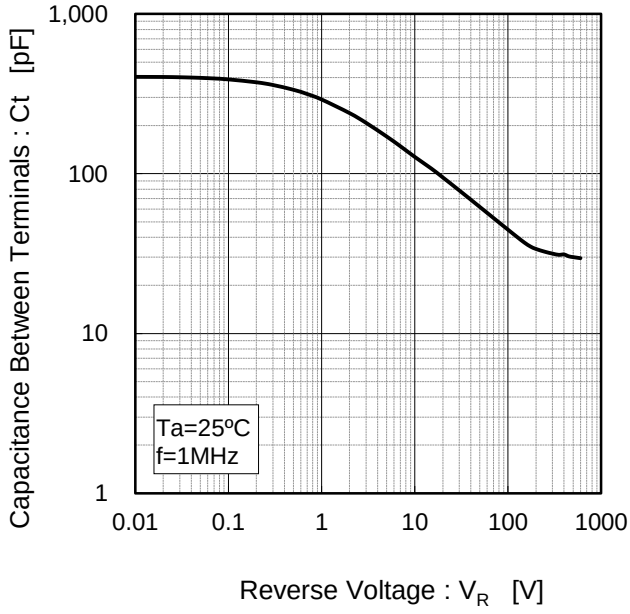


Fig.4 V_R-Ct Characteristics



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●Electrical characteristic curves

Fig.5 Thermal Resistance vs. Pulse Width

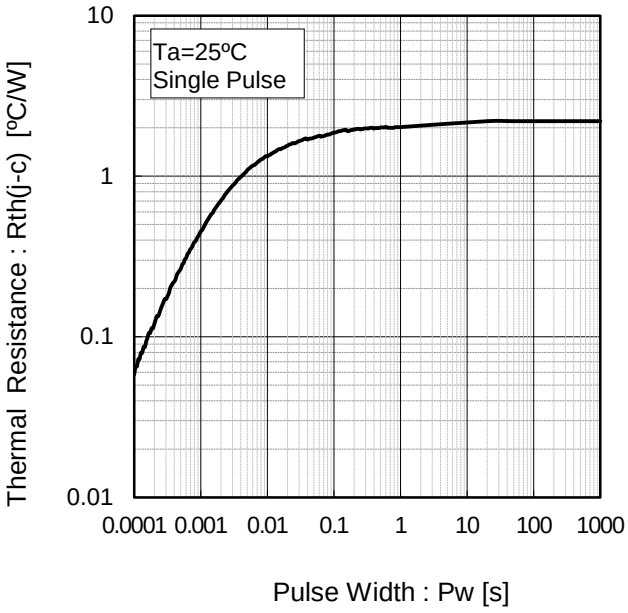


Fig.6 Power Dissipation

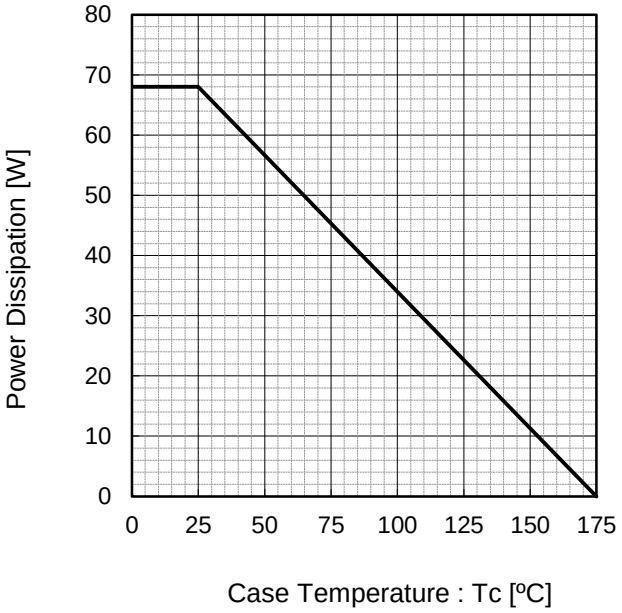


Fig.7 Ip-Tc Derating Curve

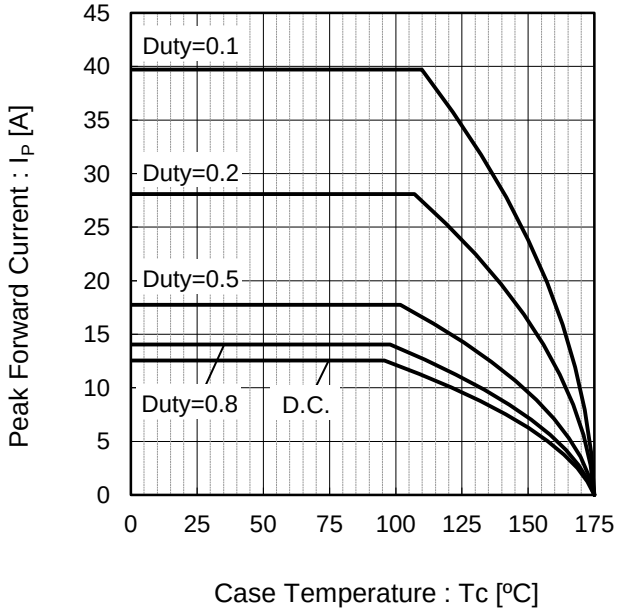
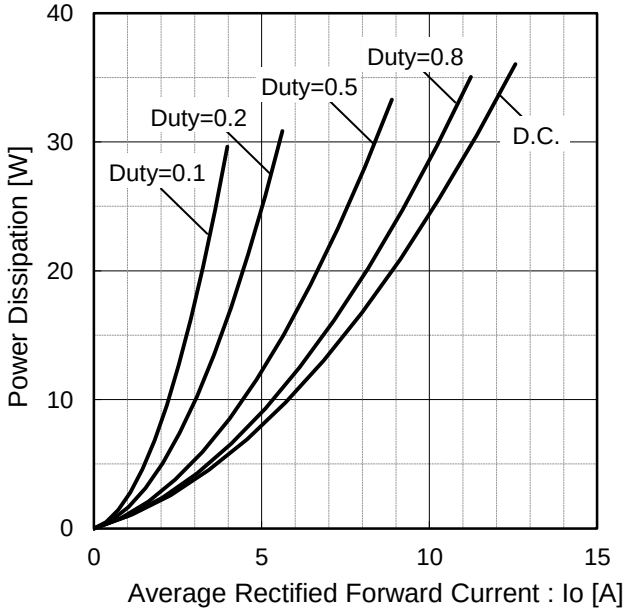


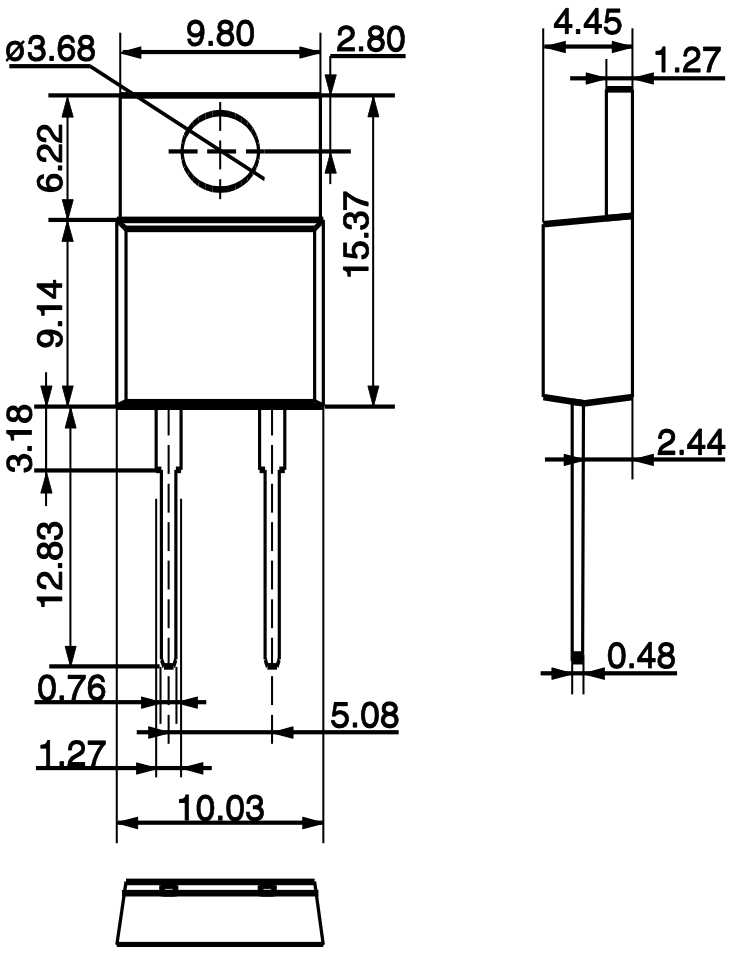
Fig.8 Io-Pf Characteristics



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●**Dimensions** (Unit : mm)

TO-220AC



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