

SiC Schottky Barrier Diode

SCS106AG

Applications

Switching power supply

Features

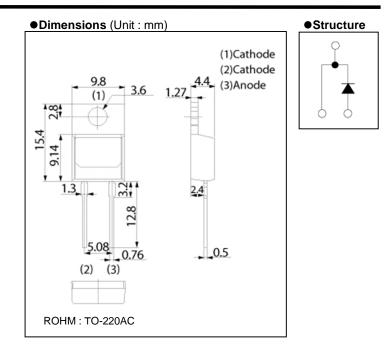
1)Shorter recovery time

2)Reduced temperature dependence

3)High-speed switching possible

Construction

Silicon carbide epitaxial planer type



•Absolute maximum ratings (Tj=25°C)

Parameter	Symbol	Limits	Unit	
Reverse voltage (repetitive peak)	V _{RM}	600	V	
Reverse voltage (DC)	V _R	600	V	
Continuous forward current	l _F	6* ¹	А	
Surge as repetitive ferward current		21* ²	А	
Surge no repetitive forward current	IFSM	86* ³	А	
Repetitive peak forward current	I _{FRM}	29* ⁴	А	
Total power disspation	P _D	65* ⁵	W	
Junction temperature	Tj	175	°C	
Range of storage temperature	Tstg	-55 to +175	°C	
Junction to case	Rth(j-c)	2.3	°C / W	

(*1)Tc=143°C (*2)PW=8.3ms sinusoidal,Tj=25°C

(*3)PW=10µs square,Tj=25°C (*4)Tc=100°C,Tj=150°C,Duty cycle=10% (*5)Tc=25°C

•Electrical characteristics (Tj=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
DC blocking voltage	V _{DC}	600	-	-	V	I _R =0.12mA
Forward voltage	V _F	-	1.5	1.7	V	I _F =6A,Tj=25°C
		-	1.82	-	V	I _F =6A,Tj=175°C
Reverse current	I _R	-	1.2	120	μA	V _R =600V,Tj=25°C
		-	24	-	μA	V _R =600V,Tj=175°C
Total capacitance	C - 260 - pF V _R =1V,f=1MHz - 28 - pF V _R =600V,f=1MH	V _R =1V,f=1MHz				
Total capacitance		-	28	-	рF	V _R =600V,f=1MHz
Total capacitive charge	Qc	-	12	-	nC	V _R =400V,di/dt=230A/µs
Switching time	tc	-	18	-	ns	V _R =400V,di/dt=230A/µs

2.5

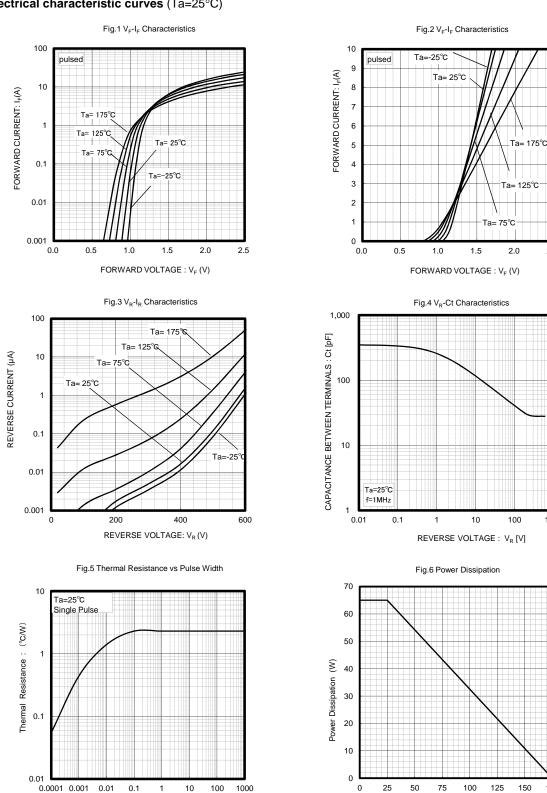
1000

150

CASE TEMPERATURE : Tc (°C)

175

•Electrical characteristic curves (Ta=25°C)



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: Pw (s)

Pulse width

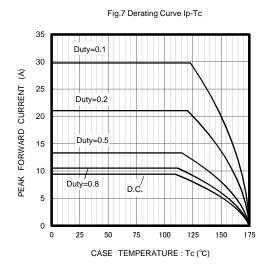
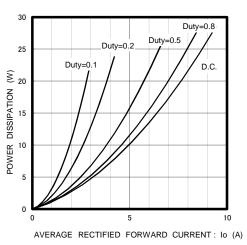


Fig.8 Io-Pf CHARACTERISTICS



	Notes
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