

SCS220AE2HR

SiC Schottky Barrier Diode

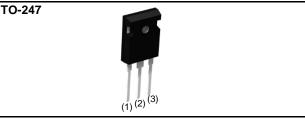
Q _C		15nC	
	*(Per leg / Both legs)		

Features

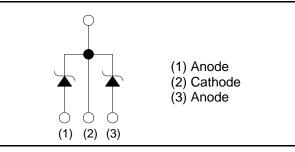
Construction

- 1) Shorter recovery time
- 2) Reduced temperature dependence
- 3) High-speed switching possible

AEC-Q101 Qualified



Inner circuit



Packaging specifications

	Packaging	Tube		
	Reel size (mm)	-		
Tuno	Tape width (mm)	-		
Туре	Basic ordering unit (pcs)	30		
	Packing code	С		
	Marking	SCS220AE2		

•Absolute maximum ratings (Tj = 25°C)

Silicon carbide epitaxial planer schottky diode

Parameter	Symbol	Value	Unit
Reverse voltage (repetitive peak)	V _{RM}	650	V
Reverse voltage (DC)	V _R	650	V
Continuous forward current ^{*7}	I _F	10/20* ¹	А
		40/80* ²	А
Surge no repetitive forward current ^{*7}	I _{FSM}	150/300* ³	А
		31/63*4	А
Repetitive peak forward current ^{*7}	I _{FRM}	42/85* ⁵	А
Total power disspation ^{*7}	P _D	83/160* ⁶	W
Junction temperature	Tj	175	°C
Range of storage temperature	Tstg	-55 to +175	°C

*1 Tc=137°C/Tc=137°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 *7 Per leg / Both legs

•Electrical characteristics (Tj = 25°C) (Per leg)

Deremeter	Symbol	Conditions	Values			L Incit
Parameter		Conditions	Min.	Тур.	Max.	Unit
DC blocking voltage	V_{DC}	I _R =0.2mA	600	-	-	V
	V _F	I _F =10A,Tj=25°C	-	1.35	1.55	V
Forward voltage		I _F =10A,Tj=150°C	-	1.55	-	V
		I _F =10A,Tj=175°C	-	1.63	-	V
	I _R	V _R =600V,Tj=25°C	-	2	200	μA
Reverse current		V _R =600V,Tj=150°C	-	30	-	μA
		V _R =600V,Tj=175°C	-	70	-	μA
Total conscitance	С	V _R =1V,f=1MHz	-	365	-	pF
Total capacitance		V _R =600V,f=1MHz	-	37	-	pF
Total capacitive charge	Qc	V _R =400V,di/dt=350A/μs	-	15	-	nC
Switching time	tc	V _R =400V,di/dt=350A/μs	-	15	-	ns

•Thermal characteristics

Parameter	Symbol	Conditions	Values			Unit
Farameter			Min.	Тур.	Max.	Onit
Thermal resistance	R _{th(i-c)}	Per Leg	-	1.6	1.8	°C/W
		Both Legs	-	0.8	0.9	°C/W

•Electrical characteristic curves

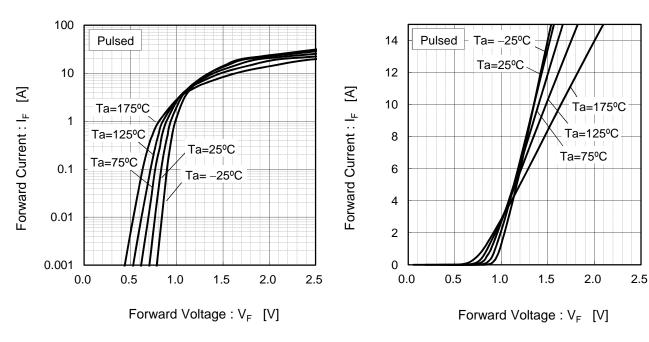
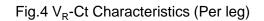
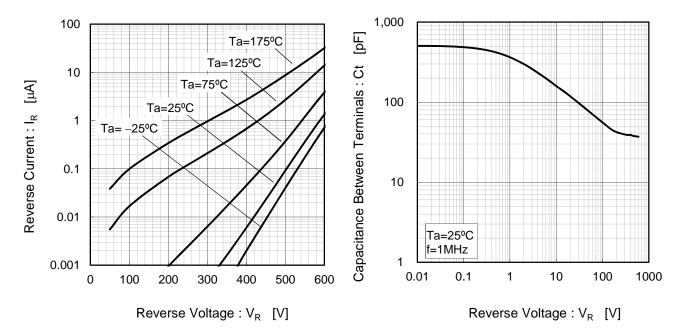


Fig.1 V_F - I_F Characteristics (Per leg)

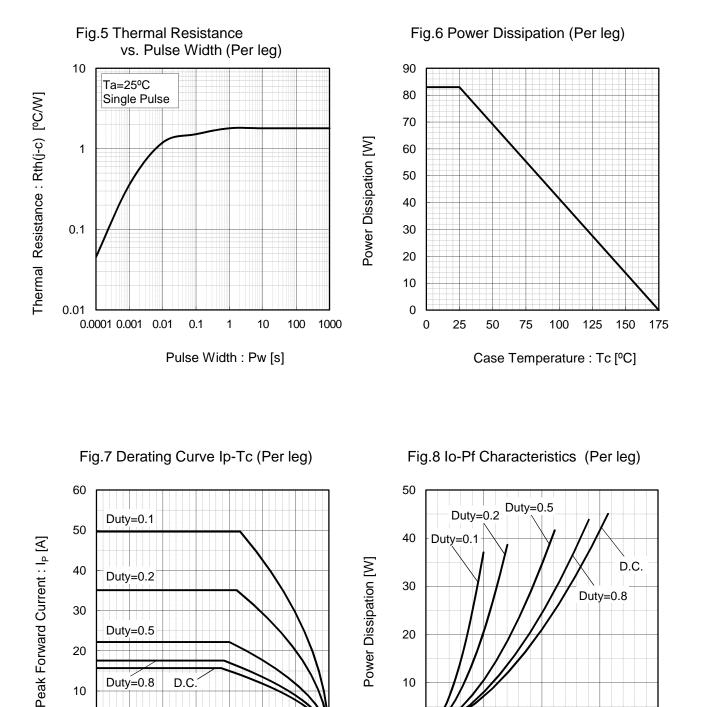
Fig.2 V_F - I_F Characteristics (Per leg)

Fig.3 V_R - I_R Characteristics (Per leg)





Electrical characteristic curves



Average Rectified Forward Current : Io [A]

10

5

Duty=0.5

Duty=0.8

25

D.C.

75

100

Case Temperature : Tc [°C]

125

150

175

50

20

10

0

0

15

20

20

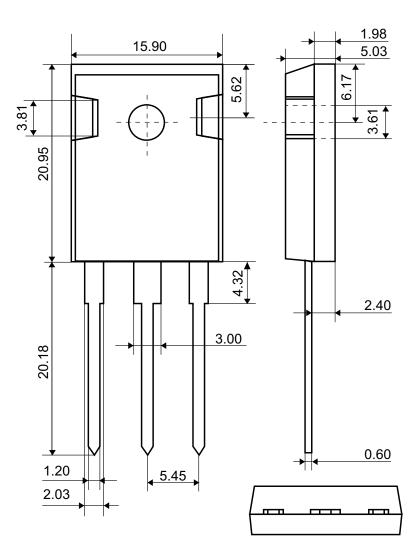
10

0

0

•Dimensions (Unit : mm)

TO-247



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SCS220AE2HR - Web Page

Part Number	SCS220AE2HR
Package	TO-247
Unit Quantity	360
Minimum Package Quantity	30
Packing Type	Tube
Constitution Materials List	inquiry
RoHS	Yes