Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

SCS230AE2

SiC Schottky Barrier Diode

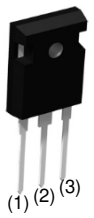
Datasheet

V_R	650V
I_F	15A/30A*
Q_C	23nC

*(Per leg / Both legs)

●Outline

TO-247



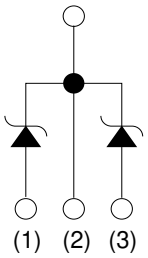
●Features

1) Shorter recovery time

2) Reduced temperature dependence

3) High-speed switching possible

●Inner circuit



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

●Construction

Silicon carbide epitaxial planer type

●Packaging specifications

Type	Packaging	Tube
	Reel size (mm)	-
	Tape width (mm)	-
	Basic ordering unit (pcs)	30
	Packing code	C
	Marking	SCS230AE2

●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*7	I_F	15/30*1	A
Surge no repetitive forward current*7	I_{FSM}	55/110*2	A
		200/410*3	A
		43/87*4	A
Repetitive peak forward current*7	I_{FRM}	61/124*5	A
Total power disspation*7	P_D	110/230*6	W
Junction temperature	Tj	175	°C
Range of storage temperature	Tstg	−55 to +175	°C

*1 Tc=130°C/Tc=130°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)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
DC blocking voltage	V_{DC}	I_R =0.3mA	600	-	-	V
Forward voltage	V_F	I_F=15A,Tj=25°C	-	1.35	1.55	V
		I_F=15A,Tj=150°C	-	1.55	-	V
		I_F=15A,Tj=175°C	-	1.63	-	V
Reverse current	I_R	V_R=600V,Tj=25°C	-	3	300	μA
		V_R=600V,Tj=150°C	-	45	-	μA
		V_R=600V,Tj=175°C	-	105	-	μA
Total capacitance	C	V_R=1V,f=1MHz	-	550	-	pF
		V_R=600V,f=1MHz	-	56	-	pF
Total capacitive charge	Qc	V_R=400V,di/dt=350A/μs	-	23	-	nC
Switching time	tc	V_R=400V,di/dt=350A/μs	-	18	-	ns

●Thermal characteristics

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Thermal resistance	$R_{th(j-c)}$	Per Leg	-	1.1	1.3	°C/W
		Both Legs	-	0.55	0.63	°C/W

●Electrical characteristic curves

Fig.1 V_F - I_F Characteristics (Per leg)

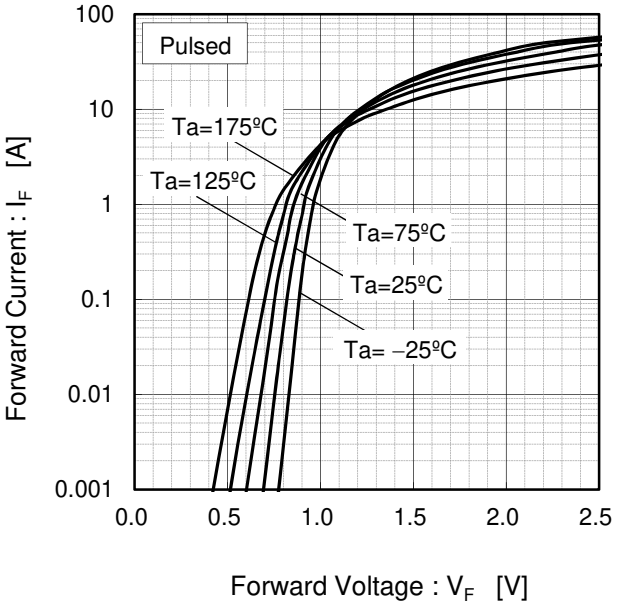


Fig.2 V_F - I_F Characteristics (Per leg)

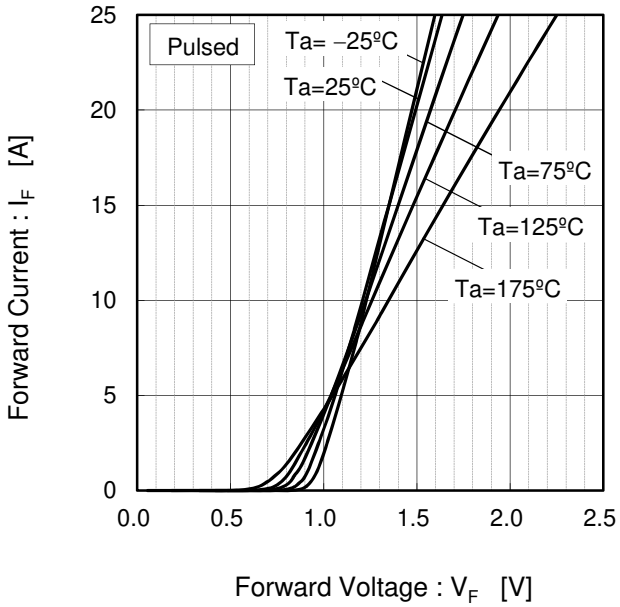


Fig.3 V_R - I_R Characteristics (Per leg)

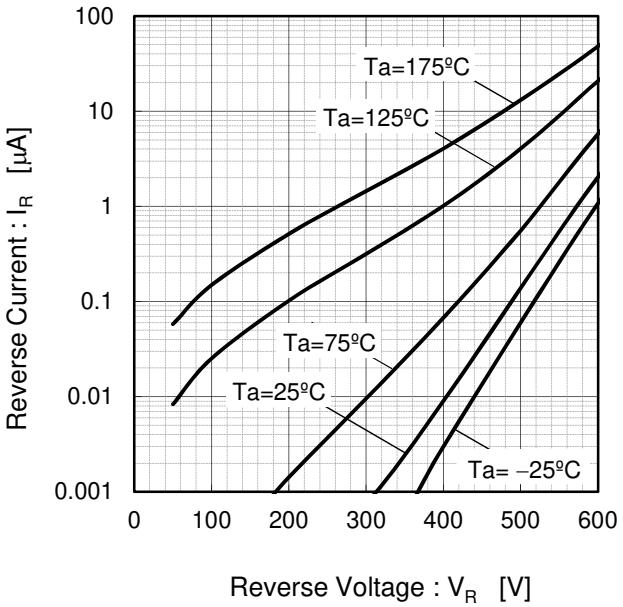
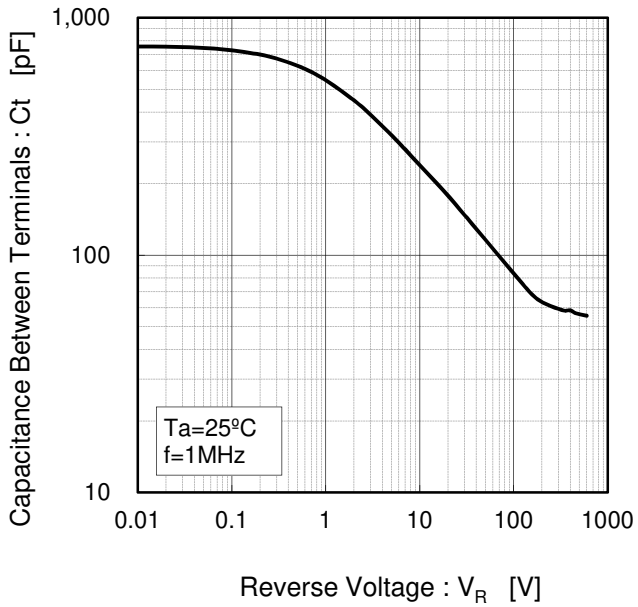


Fig.4 V_R-Ct Characteristics (Per leg)



●Electrical characteristic curves

Fig.5 Thermal Resistance vs. Pulse Width (Per leg)

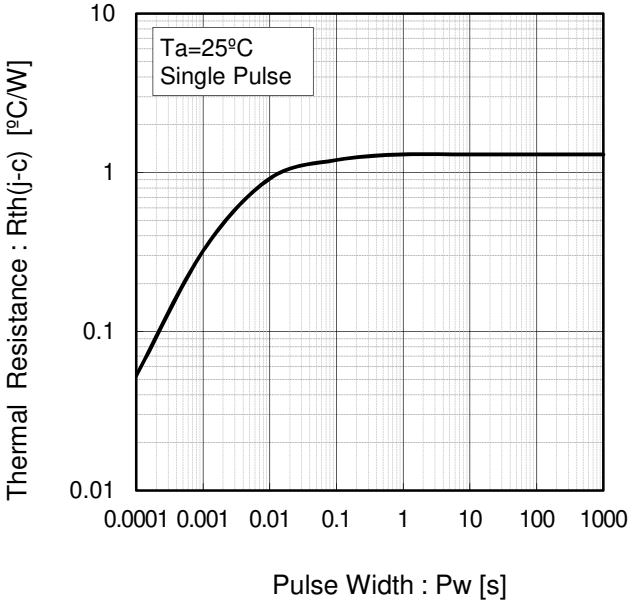


Fig.6 Power Dissipation (Per leg)

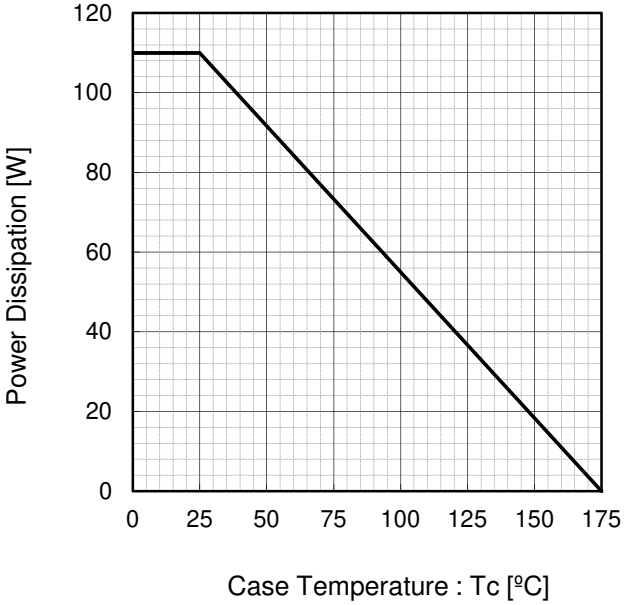


Fig.7 Derating Curve Ip-Tc (Per leg)

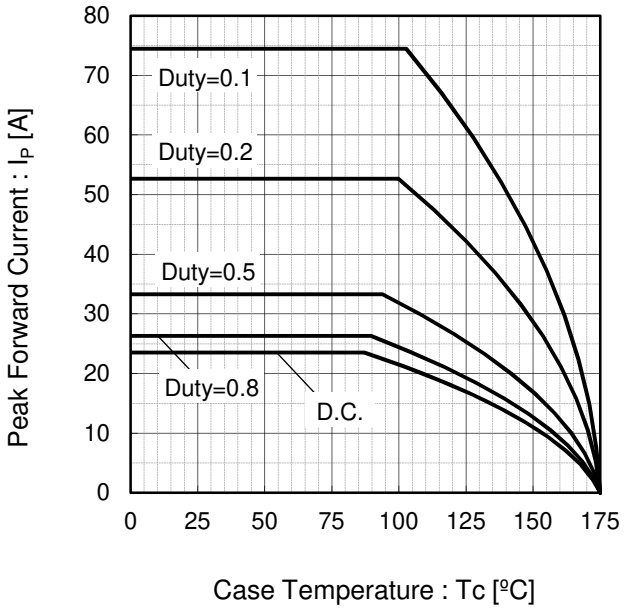
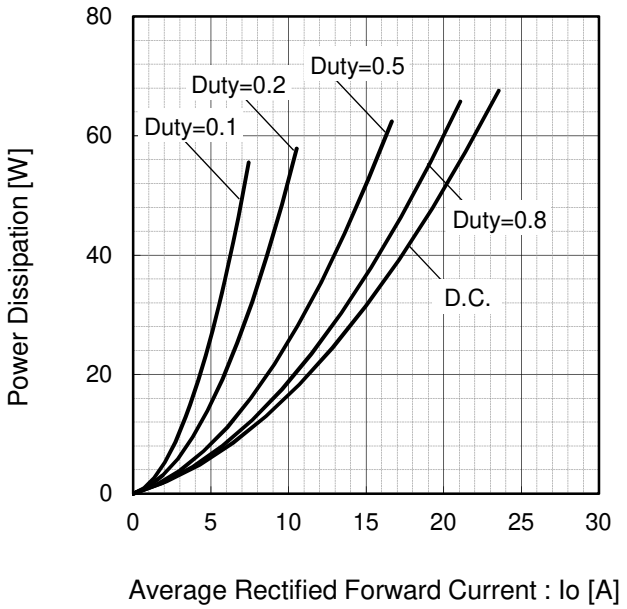


Fig.8 Io-Pf Characteristics (Per leg)



●**Dimensions** (Unit : mm)

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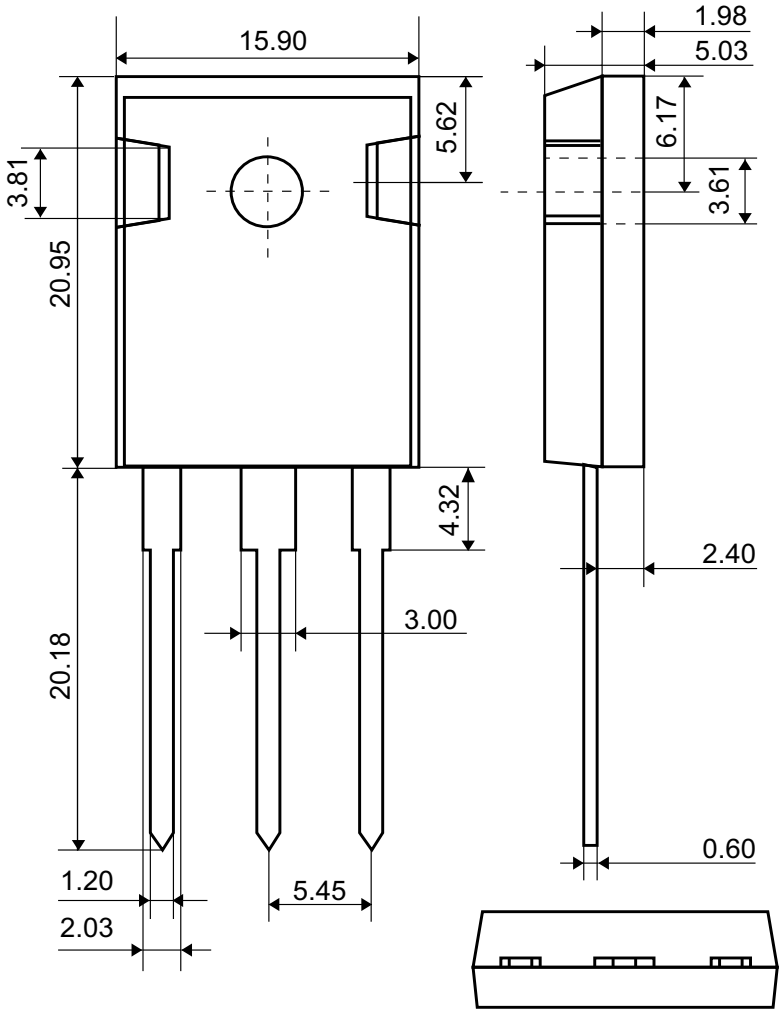

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