



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



|       |          |
|-------|----------|
| $V_R$ | 1200V    |
| $I_F$ | 15A/30A* |
| $Q_C$ | 51nC     |

\*(Per leg / Both legs)

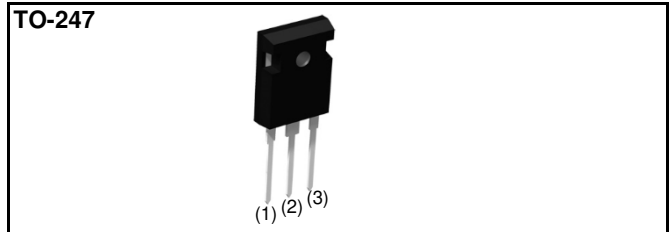
### ●Features

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

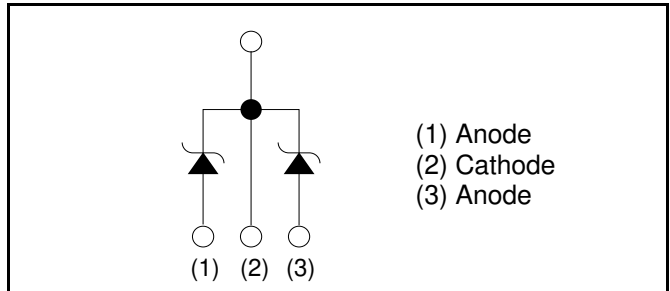
### ●Construction

Silicon carbide epitaxial planer type

### ●Outline



### ●Inner circuit



### ●Packaging specifications

|      |                           |           |
|------|---------------------------|-----------|
| Type | Packaging                 | Tube      |
|      | Reel size (mm)            | -         |
|      | Tape width (mm)           | -         |
|      | Basic ordering unit (pcs) | 30        |
|      | Packing code              | C         |
|      | Marking                   | SCS230KE2 |

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

| Parameter   | Symbol    | Value                 | Unit |
|---|-----------|-----------------------|------|
| Reverse voltage (repetitive peak)                 | $V_{RM}$  | 1200                  | V    |
| Reverse voltage (DC)                              | $V_R$     | 1200                  | V    |
| Continuous forward current <sup>*7</sup>          | $I_F$     | 15/30 <sup>*1</sup>   | A    |
| Surge no repetitive forward current <sup>*7</sup> | $I_{FSM}$ | 65/130 <sup>*2</sup>  | A    |
|   |           | 240/480 <sup>*3</sup> | A    |
|   |           | 49/98 <sup>*4</sup>   | A    |
| Repetitive peak forward current <sup>*7</sup>     | $I_{FRM}$ | 62/120 <sup>*5</sup>  | A    |
| Total power dissipation <sup>*7</sup>             | $P_D$     | 180/360 <sup>*6</sup> | W    |
| Junction temperature                              | $T_j$     | 175                   | °C   |
| Range of storage temperature                      | $T_{stg}$ | -55 to +175           | °C   |

\*1 Tc=139°C/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 \*7 Per leg / Both legs

**●Electrical characteristics** ( $T_j = 25^\circ\text{C}$ ) (Per leg)

| Parameter               | Symbol   | Conditions                                       | Values |      |      | Unit          |
|-------------------------|----------|--|--------|------|------|---------------|
|                         |          |  | Min.   | Typ. | Max. |               |
| DC blocking voltage     | $V_{DC}$ | $I_R=0.3\text{mA}$                               | 1200   | -    | -    | V             |
| Forward voltage         | $V_F$    | $I_F=15\text{A}, T_j=25^\circ\text{C}$           | -      | 1.4  | 1.6  | V             |
|                         |          | $I_F=15\text{A}, T_j=150^\circ\text{C}$          | -      | 1.8  | -    | V             |
|                         |          | $I_F=15\text{A}, T_j=175^\circ\text{C}$          | -      | 1.9  | -    | V             |
| Reverse current         | $I_R$    | $V_R=1200\text{V}, T_j=25^\circ\text{C}$         | -      | 15   | 300  | $\mu\text{A}$ |
|                         |          | $V_R=1200\text{V}, T_j=150^\circ\text{C}$        | -      | 120  | -    | $\mu\text{A}$ |
|                         |          | $V_R=1200\text{V}, T_j=175^\circ\text{C}$        | -      | 195  | -    | $\mu\text{A}$ |
| Total capacitance       | C        | $V_R=1\text{V}, f=1\text{MHz}$                   | -      | 790  | -    | pF            |
|                         |          | $V_R=800\text{V}, f=1\text{MHz}$                 | -      | 63   | -    | pF            |
| Total capacitive charge | $Q_C$    | $V_R=800\text{V}, di/dt=500\text{A}/\mu\text{s}$ | -      | 51   | -    | nC            |
| Switching time          | $t_c$    | $V_R=800\text{V}, di/dt=500\text{A}/\mu\text{s}$ | -      | 18   | -    | ns            |

**●Thermal characteristics**

| Parameter          | Symbol        | Conditions | Values |      |      | Unit                      |
|--------------------|---------------|------------|--------|------|------|---------------------------|
|                    |               |            | Min.   | Typ. | Max. |                           |
| Thermal resistance | $R_{th(j-c)}$ | Per Leg    | -      | 0.67 | 0.81 | $^\circ\text{C}/\text{W}$ |
|                    |               | Both Legs  | -      | 0.34 | 0.41 | $^\circ\text{C}/\text{W}$ |



●Electrical characteristic curves

Fig.1  $V_F - I_F$  Characteristics (per leg)

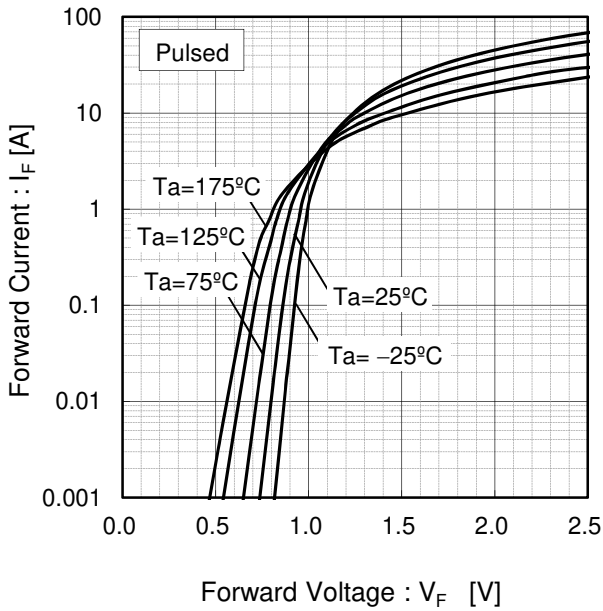


Fig.2  $V_F - I_F$  Characteristics (per leg)

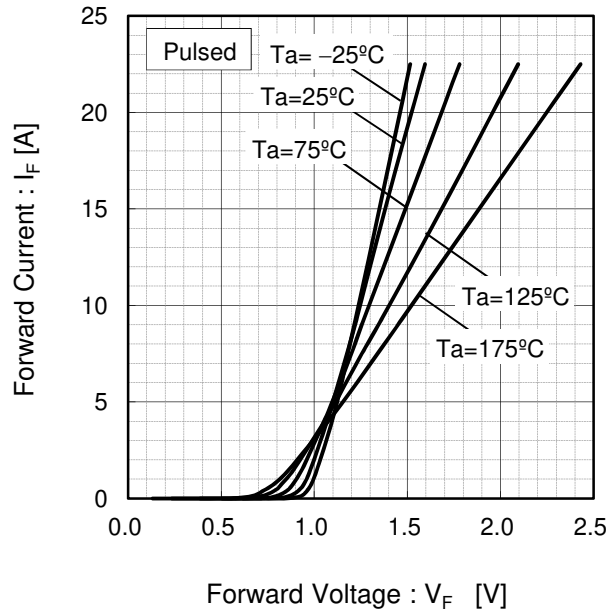


Fig.3  $V_R - I_R$  Characteristics (per leg)

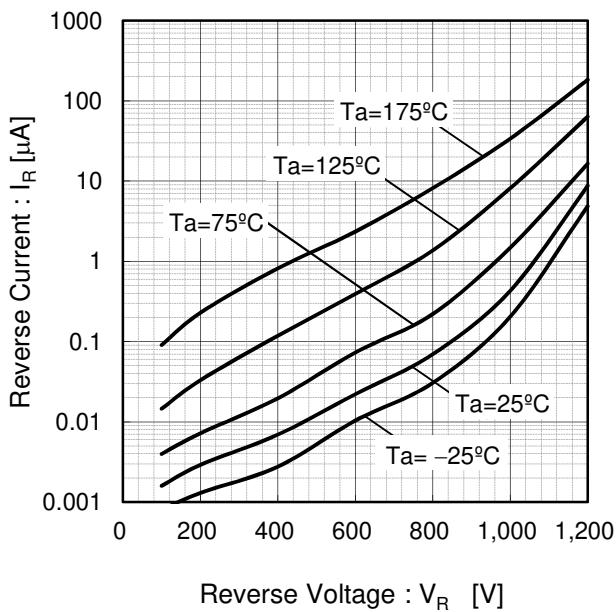
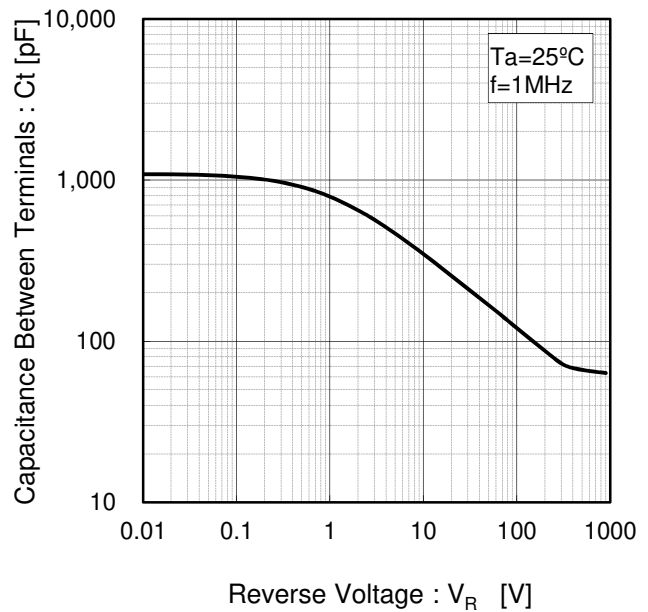


Fig.4  $V_R - C_t$  Characteristics (per leg)



●Electrical characteristic curves

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

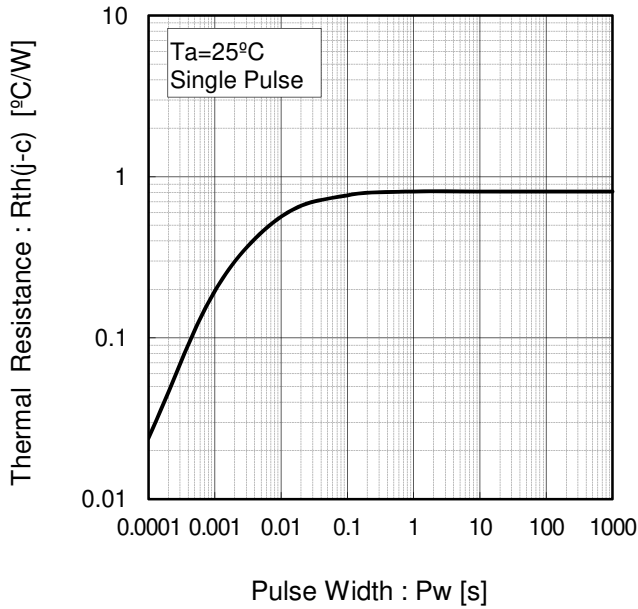


Fig.6 Power Dissipation (per leg)

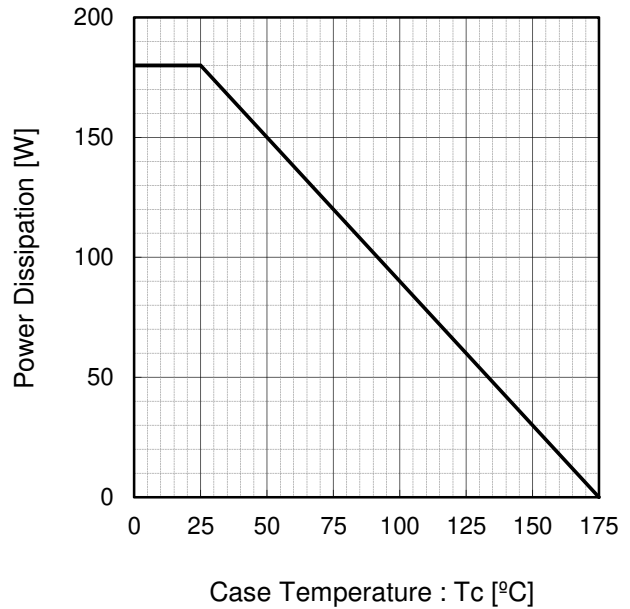


Fig.7 Ip-Tc Derating Curve (per leg)

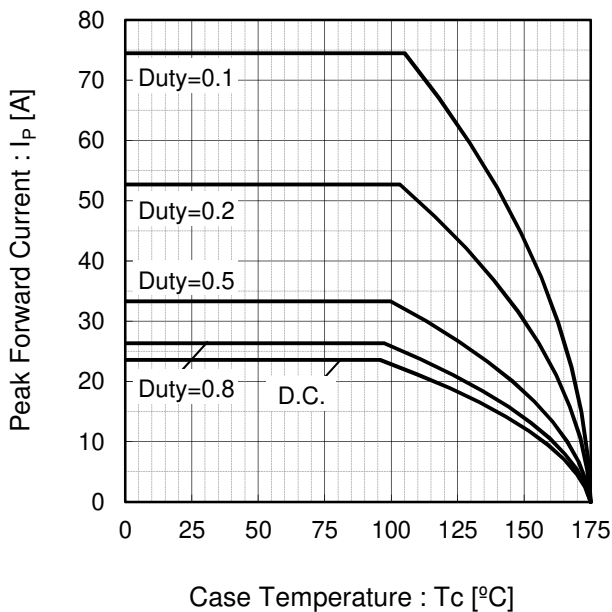
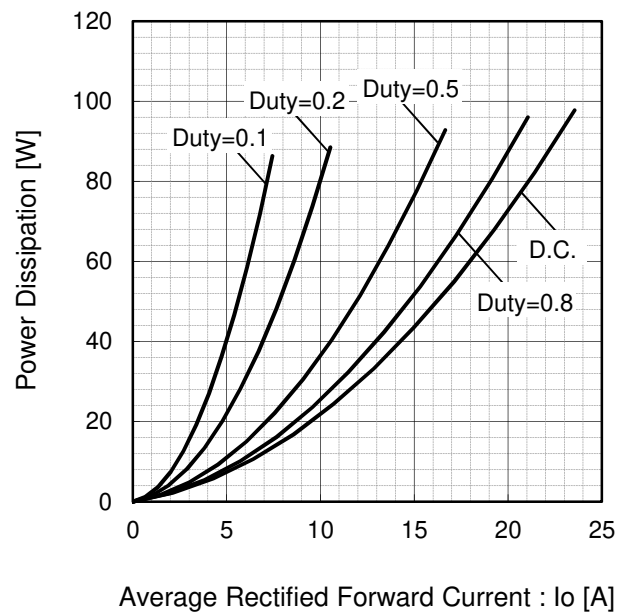
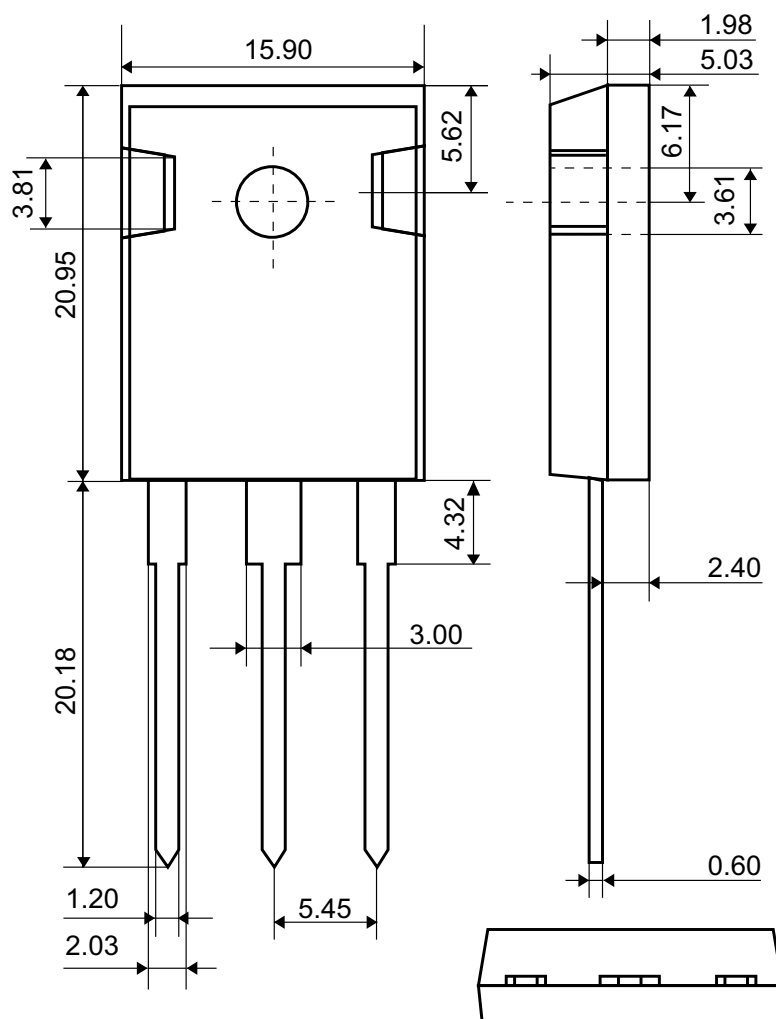


Fig.8 Io-Pf Characteristics (per leg)



## ●Dimensions (Unit : mm)

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