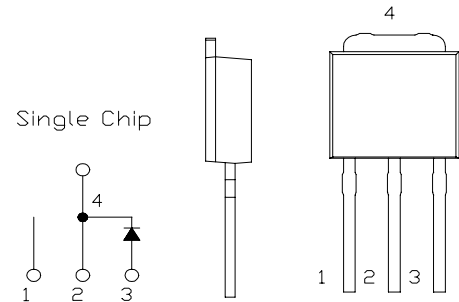


# SBD Type : EA30QS03L

## OUTLINE DRAWING

### FEATURES

- \* TO-251AA Case
- \* Extremely Low Forward Voltage drop
- \* Low Power Loss, High Efficiency
- \* High Surge Capability



### Maximum Ratings

Approx Net Weight:0.35g

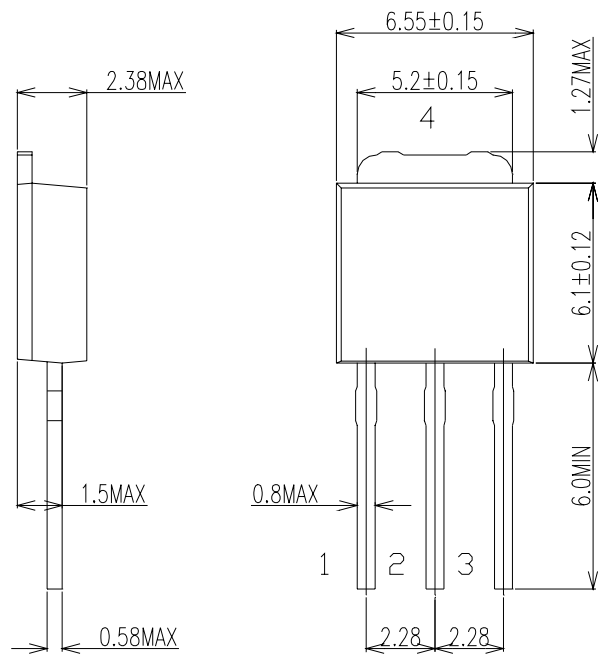
| Rating                              | Symbol              | EA30QS03L     |                                               |                                       | Unit |
|-------------------------------------|---------------------|---------------|-----------------------------------------------|---------------------------------------|------|
| Repetitive Peak Reverse Voltage     | V <sub>RRM</sub>    | 30            |                                               |                                       | V    |
| Average Rectified Output Current    | I <sub>O</sub>      | 1.7           | Ta=32°C *1                                    | 50Hz Half Sine Wave<br>Resistive Load | A    |
|                                     |                     | 3.0           | Tc=126°C                                      |                                       |      |
| RMS Forward Current                 | I <sub>F(RMS)</sub> | 4.71          |                                               |                                       | A    |
| Surge Forward Current               | I <sub>FSM</sub>    | 45            | 50Hz Half Sine Wave,1cycle,<br>Non-repetitive |                                       | A    |
| Operating JunctionTemperature Range | T <sub>jw</sub>     | - 40 to + 150 |                                               |                                       | °C   |
| Storage Temperature Range           | T <sub>stg</sub>    | - 40 to + 150 |                                               |                                       | °C   |

### Electrical • Thermal Characteristics

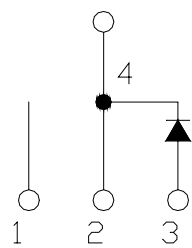
| Characteristics      |                     | Symbol        | Conditions                                    | Min | Typ | Max  | Unit                 |
|----------------------|---------------------|---------------|-----------------------------------------------|-----|-----|------|----------------------|
| Peak Reverse Current |                     | $I_{RM}$      | $T_j=25^{\circ}\text{C}, V_{RM}=V_{RRM}$      | -   | -   | 3.0  | mA                   |
| Peak Forward Voltage |                     | $V_{FM}$      | $T_j=25^{\circ}\text{C}, I_{FM}= 3 \text{ A}$ | -   | -   | 0.45 | V                    |
| Thermal Resistance   | Junction to Ambient | $R_{th(j-a)}$ | P.C.Board mounted *1                          | -   | -   | 80   | $^{\circ}\text{C/W}$ |
|                      | Junction to Case    | $R_{th(j-c)}$ | -                                             | -   | -   | 6    | $^{\circ}\text{C/W}$ |

\*1: P.C.Board mounted, Print Land = 20x20 mm

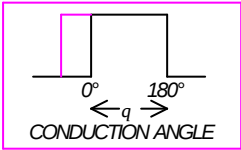
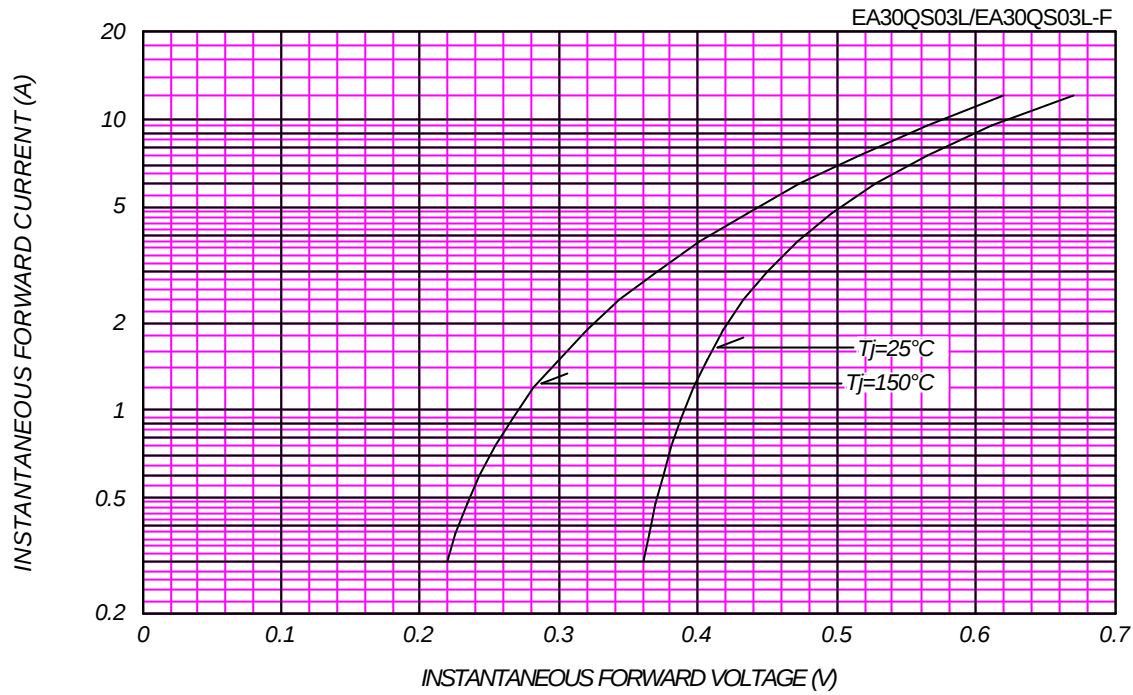
EA30QS03L OUTLINE DRAWING (Dimensions in mm)



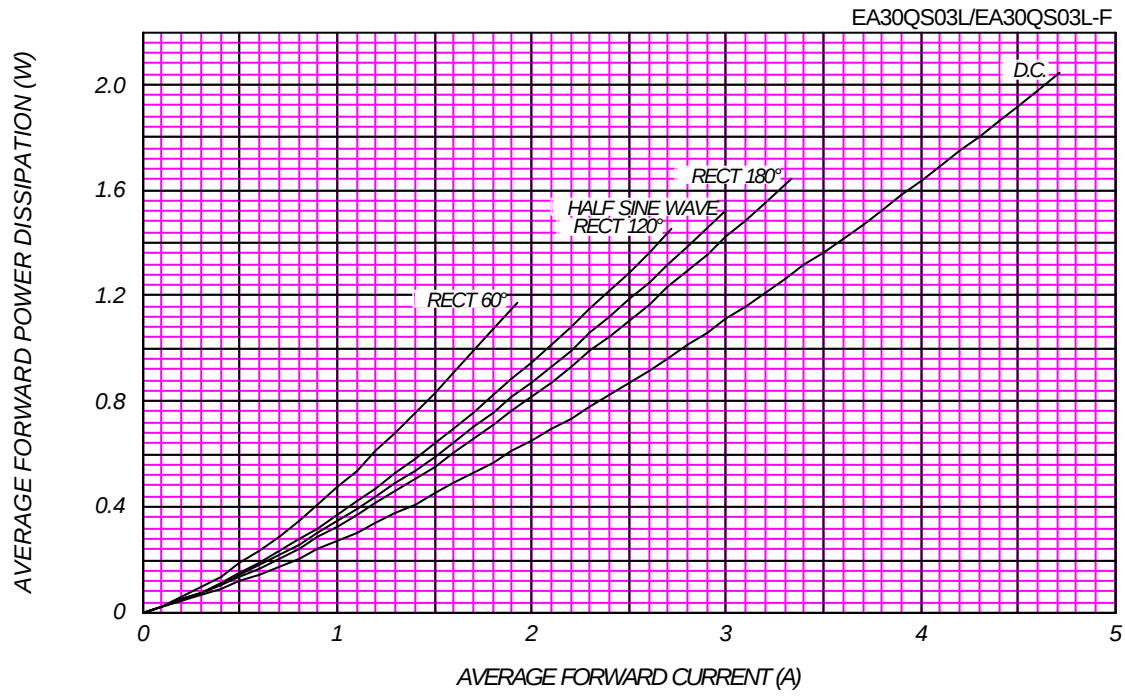
Single Chip



FORWARD CURRENT VS. VOLTAGE



AVERAGE FORWARD POWER DISSIPATION



PEAK REVERSE CURRENT VS. PEAK REVERSE VOLTAGE

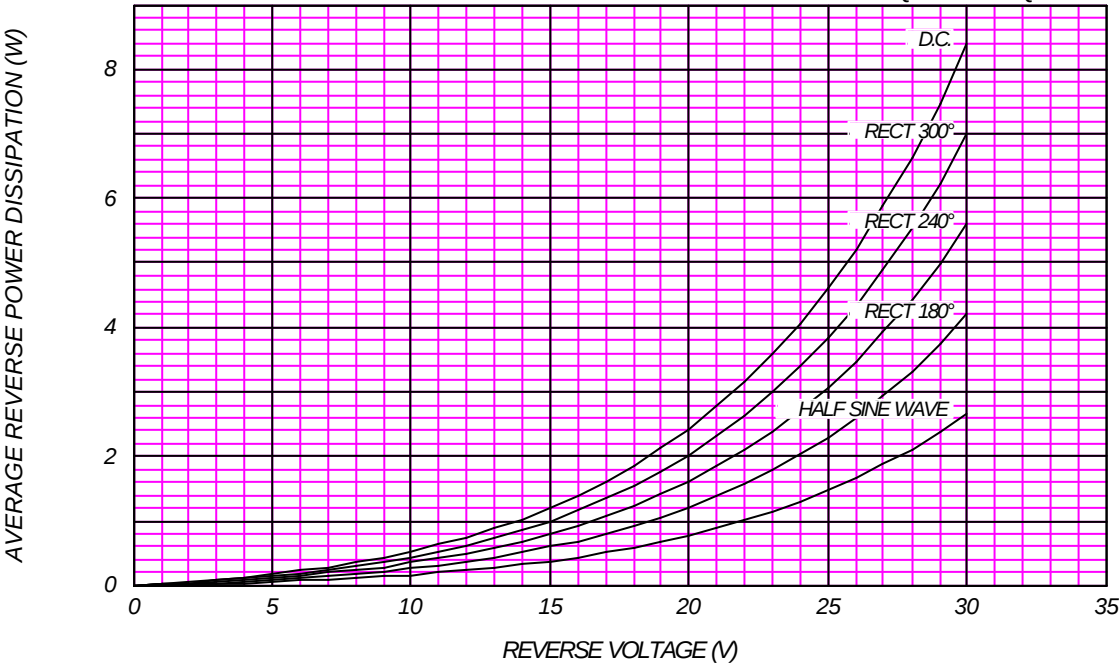
Tj= 150 °C

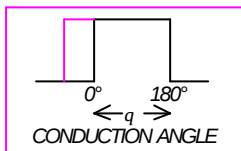
EA30QS03L/EA30QS03L-F



AVERAGE REVERSE POWER DISSIPATION

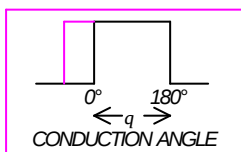
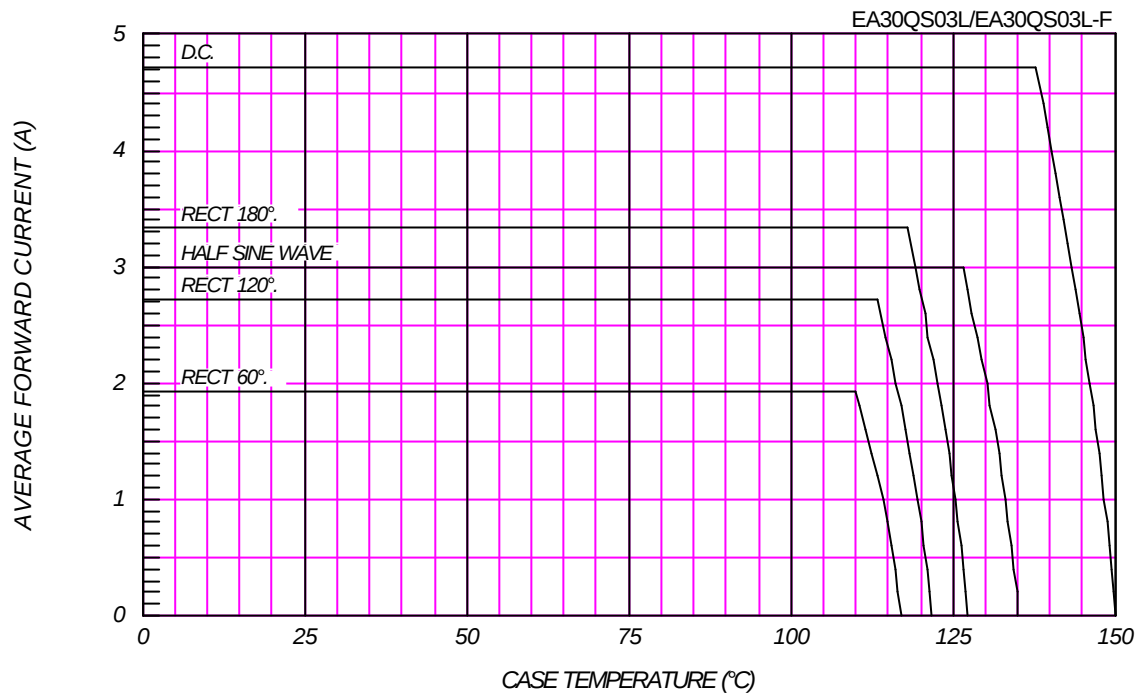
EA30QS03L/EA30QS03L-F





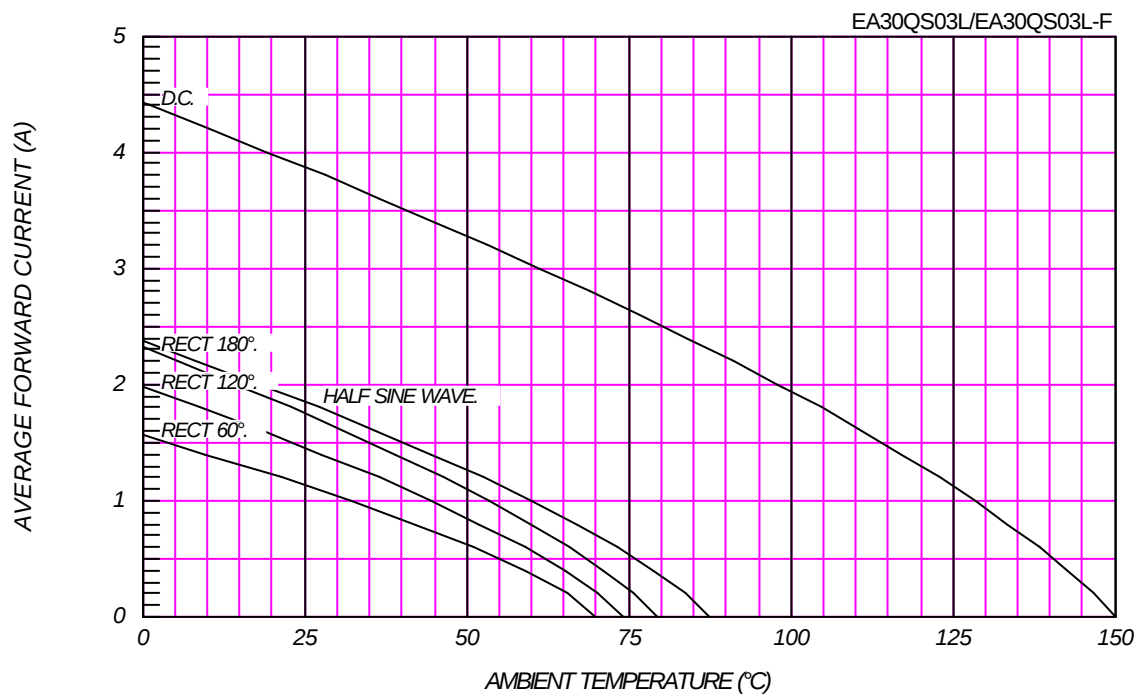
AVERAGE FORWARD CURRENT VS. CASE TEMPERATURE

$V_{RM}=30V$



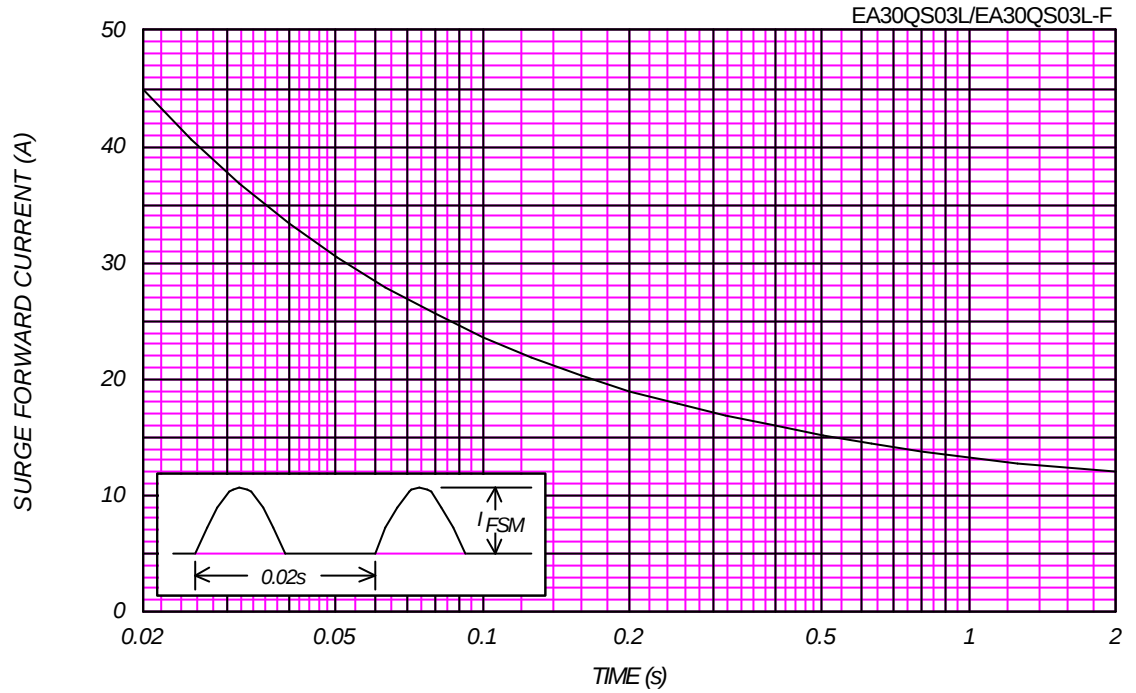
AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE

P.C. Board mounted (Plint land=20x20mm)



### SURGE CURRENT RATINGS

f=50Hz,Sine Wave,Non-Repetitive,No Load



### JUNCTION CAPACITANCE VS. REVERSE VOLTAGE

T<sub>j</sub>=25° C,V<sub>m</sub>=20mV<sub>RMS</sub>,f=100kHz,Typical Value

