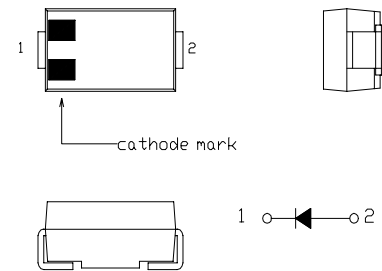


# SBD      Type : EC21QS10

## FEATURES

- \* Miniature Size, Surface Mount Device
- \* Low Forward Voltage Drop
- \* Low Power Loss, High Efficiency
- \* High Surge Capability
- \* 30 Volts through 100Volts Types Available
- \* Packaged in 12mm Tape and Reel
- \* Not Rolling During Assembly

## OUTLINE DRAWING



## Maximum Ratings

Approx Net Weight: 0.06g

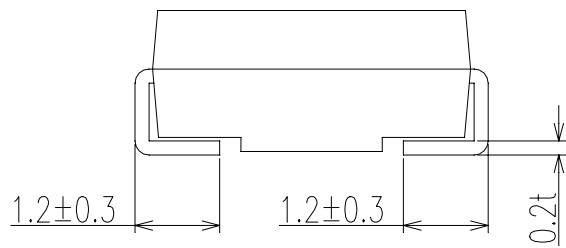
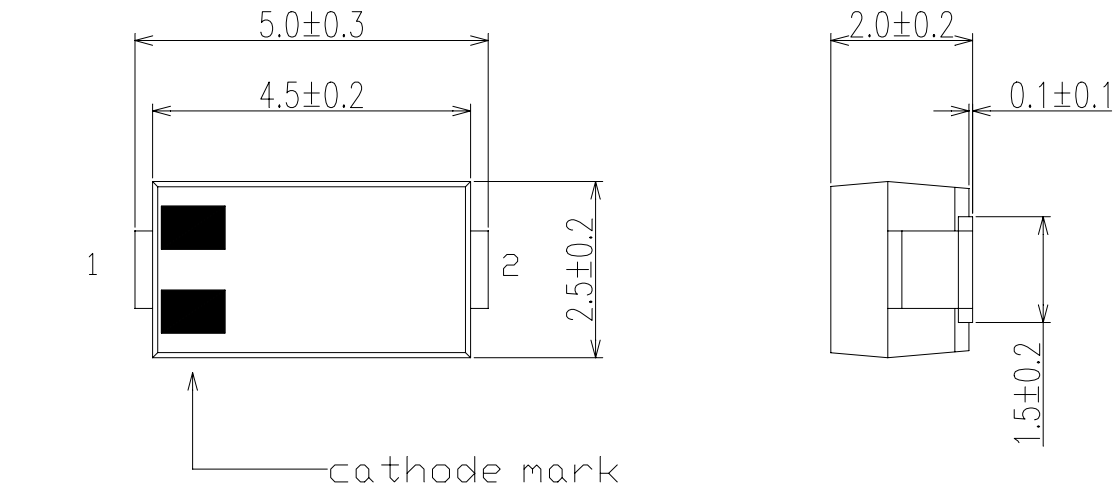
| Rating                              | Symbol              | EC21QS10    |                                           |                     | Unit |
|-------------------------------------|---------------------|-------------|-------------------------------------------|---------------------|------|
| Repetitive Peak Reverse Voltage     | V <sub>RRM</sub>    | 100         |                                           |                     | V    |
| Average Rectified Output Current    | I <sub>o</sub>      | 1.3         | Ta=25 °C *1                               | 50Hz Half Sine      | A    |
|                                     |                     | 2.0         | Tl=106 °C                                 | Wave Resistive Load |      |
| RMS Forward Current                 | I <sub>F(RMS)</sub> | 3.14        |                                           |                     | A    |
| Surge Forward Current               | I <sub>FSM</sub>    | 50          | 50Hz Half Sine Wave,1cycle 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

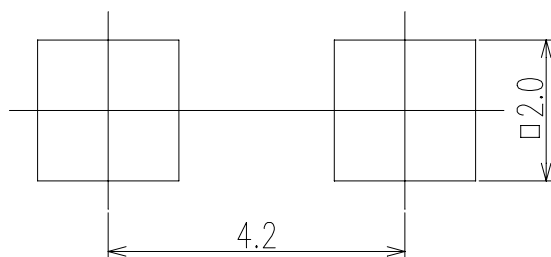
| Characteristics      |                     | Symbol        | Conditions                                                  | Min. | Typ. | Max. | Unit                        |
|----------------------|---------------------|---------------|-------------------------------------------------------------|------|------|------|-----------------------------|
| Peak Reverse Current |                     | $I_{RM}$      | $T_j = 25\text{ }^{\circ}\text{C}$ , $V_{RM} = V_{RRM}$     | -    | -    | 1    | mA                          |
| Peak Forward Voltage |                     | $V_{FM}$      | $T_j = 25\text{ }^{\circ}\text{C}$ , $I_{FM} = 2.0\text{A}$ | -    | -    | 0.85 | V                           |
| Thermal Resistance   | Junction to Ambient | $R_{th(j-a)}$ | Alumina Substrate Mounted *1                                | -    | -    | 108  | $^{\circ}\text{C}/\text{W}$ |
|                      | Junction to Lead    | $R_{th(j-l)}$ | -                                                           | -    | -    | 23   |                             |

\*1 Alumina Substrate Mounted (Soldering Lands=2x2mm, Both Sides)  
( $T_l$ : Lead Temperature)

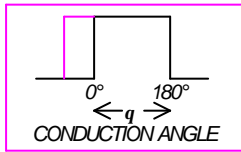
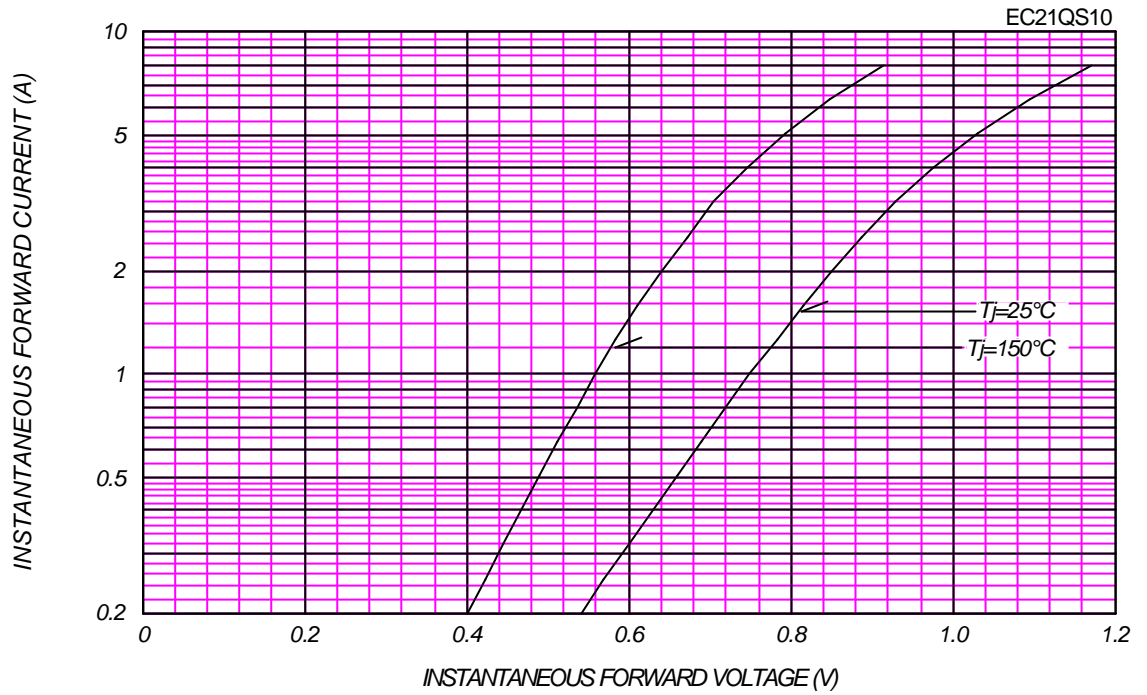
# EC21QS\_ OUTLINE DRAWING (Dimensions in mm)



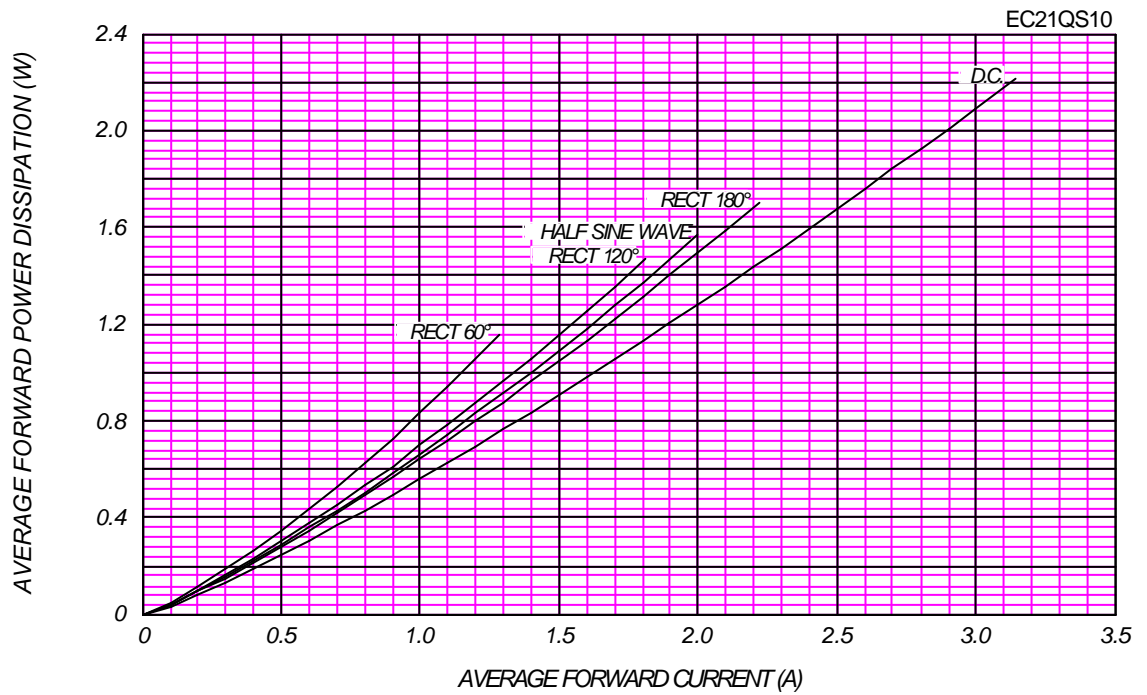
soldering pad



# FORWARD CURRENT VS. VOLTAGE



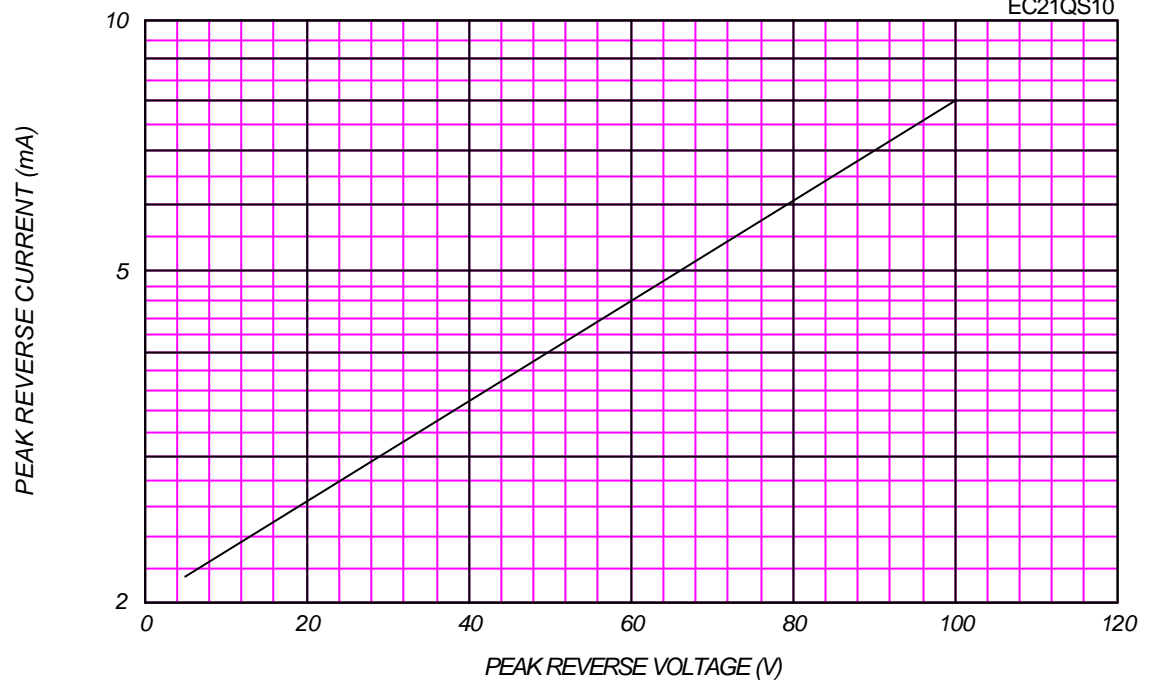
# AVERAGE FORWARD POWER DISSIPATION



# PEAK REVERSE CURRENT VS. PEAK REVERSE VOLTAGE

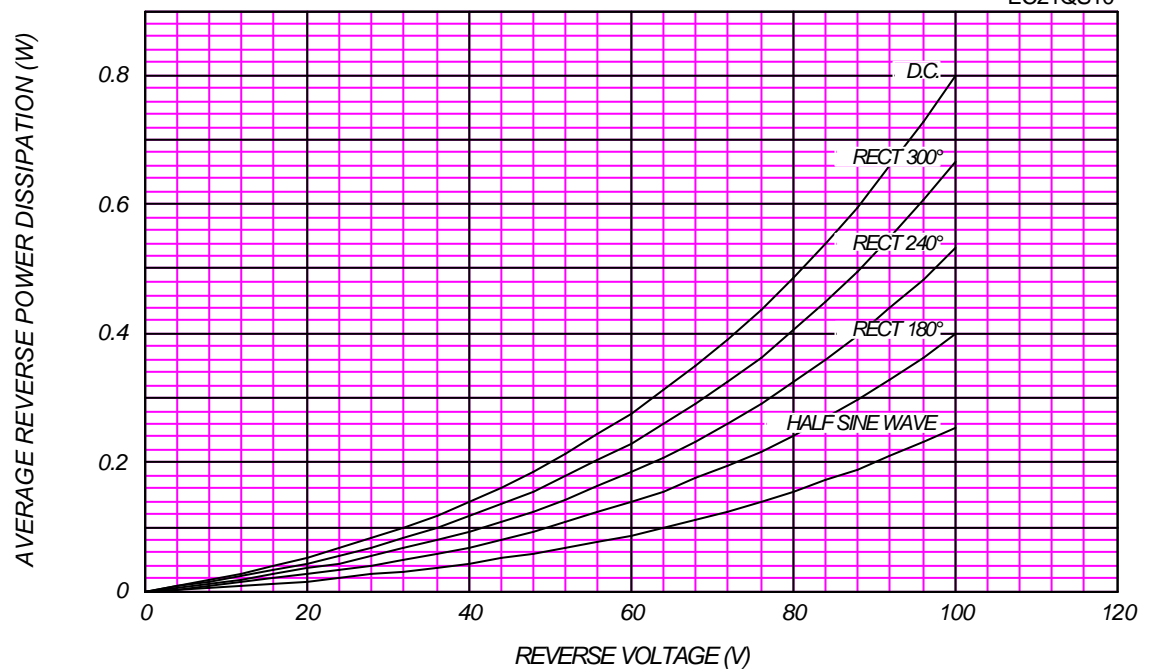
$T_j = 150\text{ }^{\circ}\text{C}$

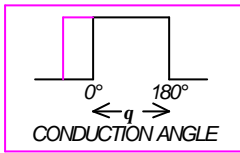
EC21QS10



# AVERAGE REVERSE POWER DISSIPATION

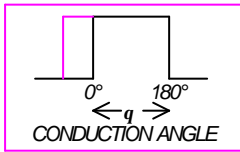
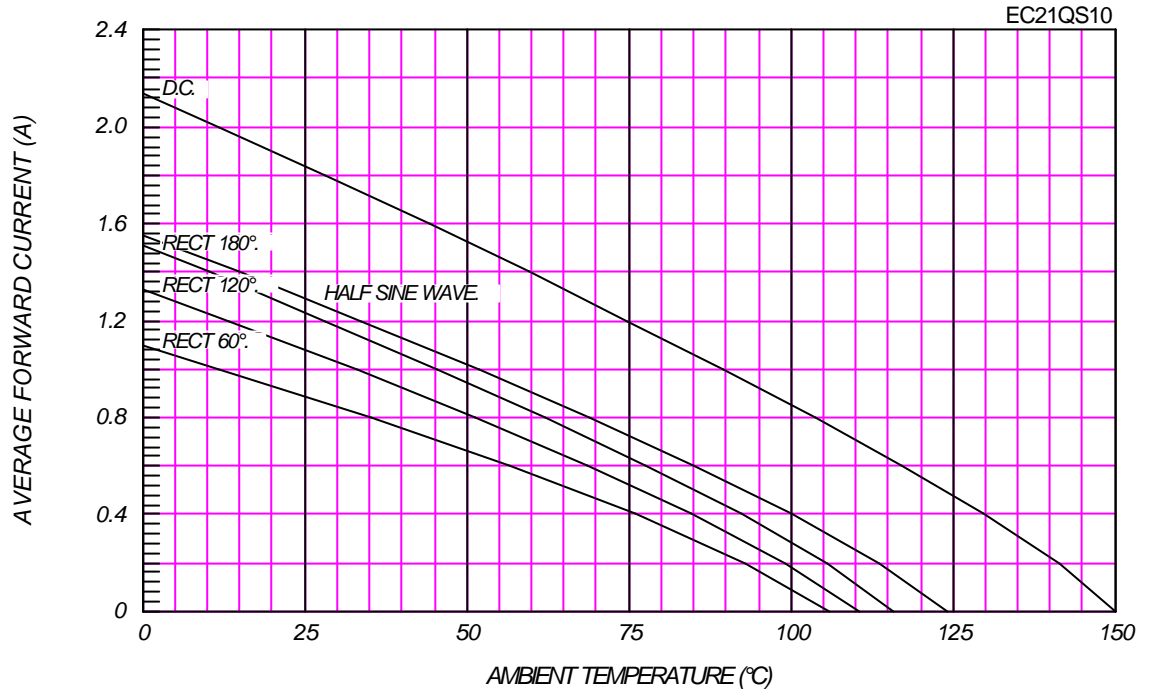
EC21QS10





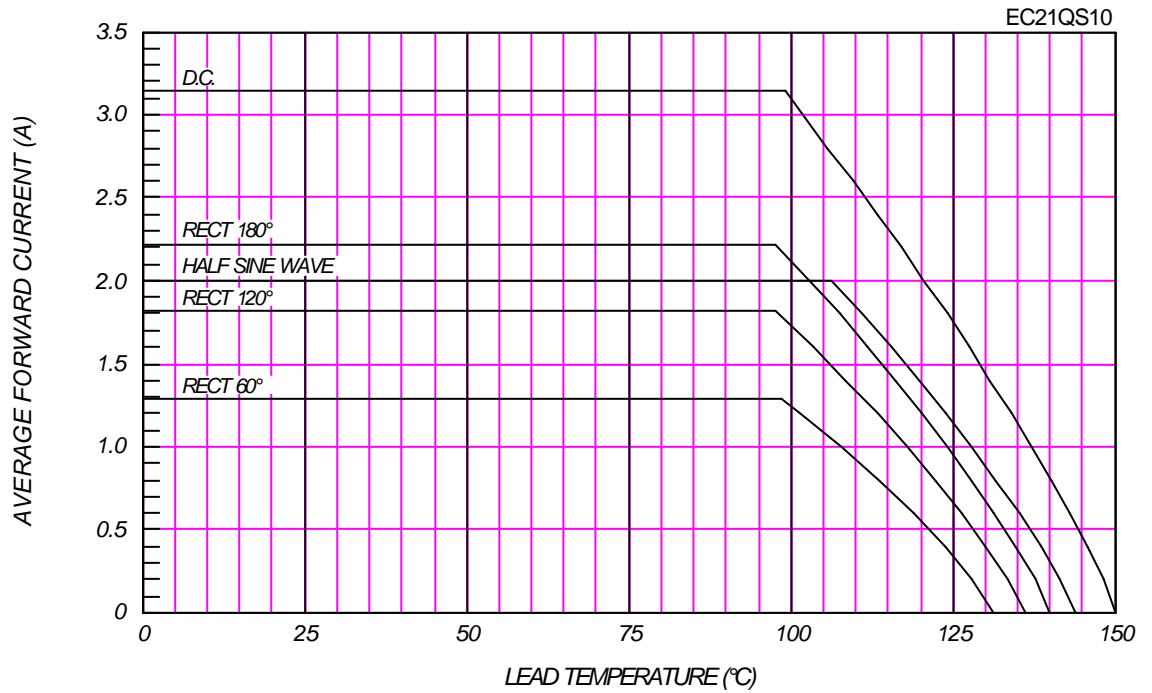
### AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE

Alumina Substrate Mounted (Soldering Land = 2x2mm),  $V_{RM} = 100V$



### AVERAGE FORWARD CURRENT VS. LEAD TEMPERATURE

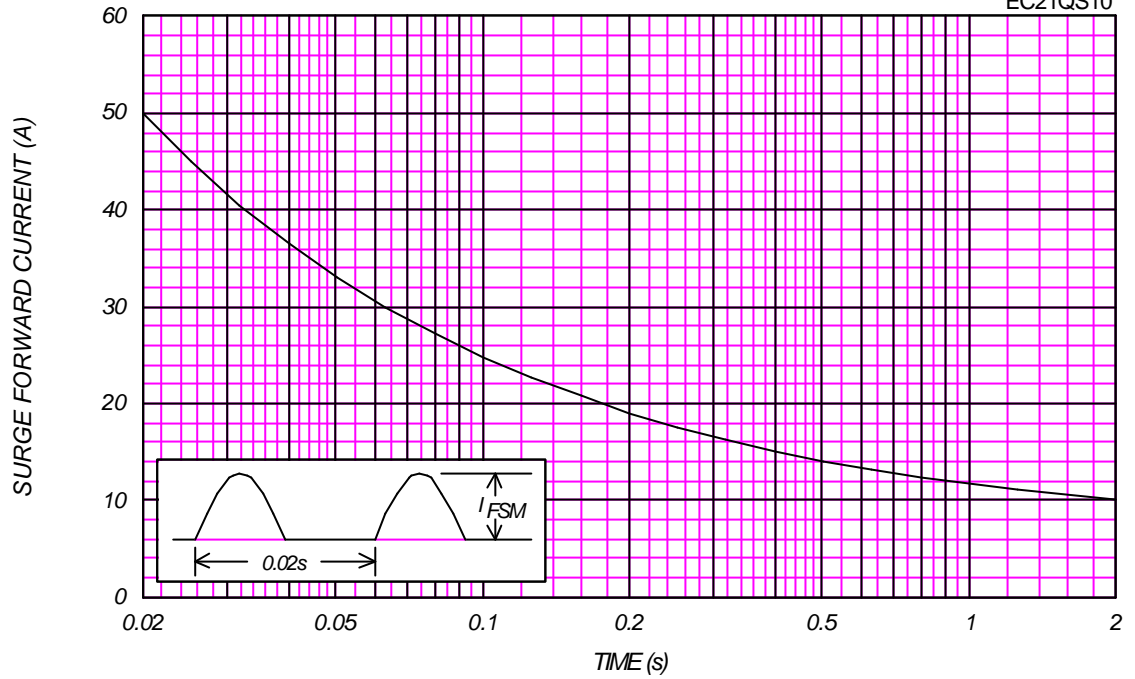
$V_{RM} = 100V$



### SURGE CURRENT RATINGS

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

EC21QS10



### JUNCTION CAPACITANCE VS. REVERSE VOLTAGE

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

EC21QS10

