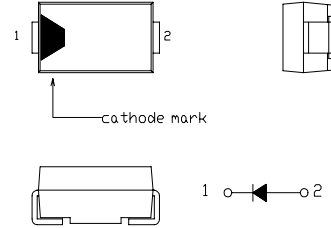


# SBD Type : EC31QS04

## 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

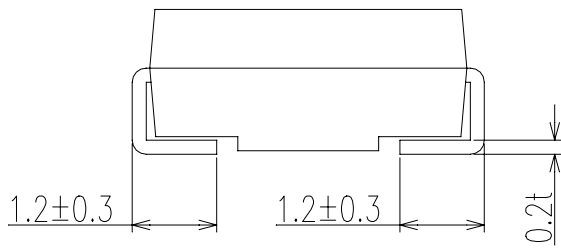
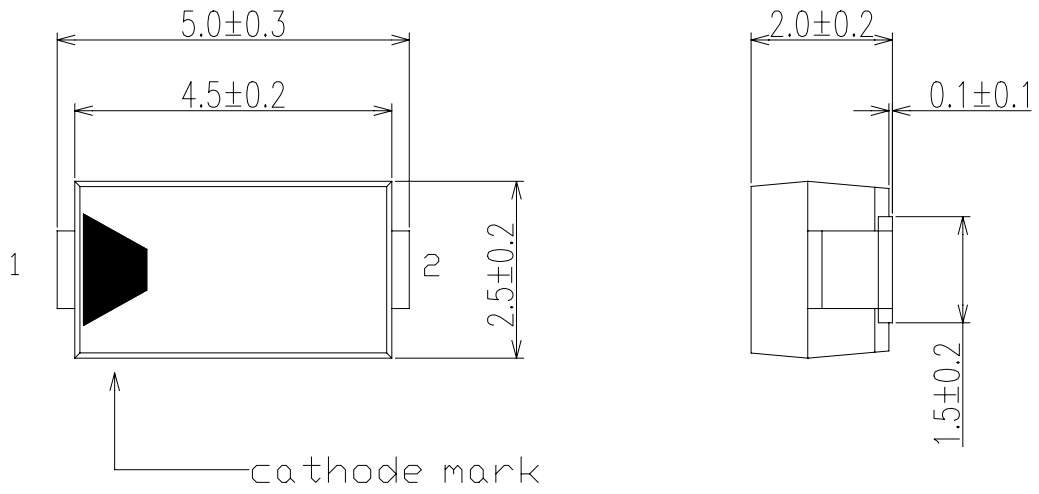
Rating	Symbol	EC31QS04		Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	40		V
Average Rectified Output Current	$I_O$	1.3	$T_a=36\text{ }^\circ\text{C}$ *1	50Hz Half Sine Wave Resistive Load
		3.0	$T_l=81\text{ }^\circ\text{C}$ Tl:Lead Temperature	
RMS Forward Current	$I_{F(RMS)}$	4.71		A
Surge Forward Current	$I_{FSM}$	60	50Hz Half Sine Wave, 1cycle Non-repetitive	A
Operating Junction Temperature Range	$T_{jw}$	-40 to +150		$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-40 to +150		$^\circ\text{C}$

## Electrical • Thermal Characteristics

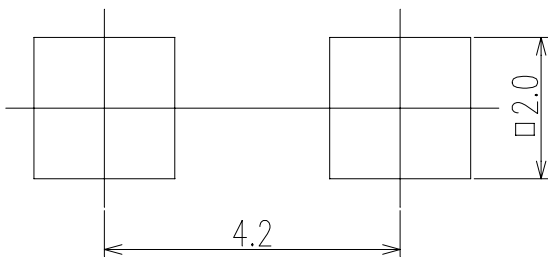
Characteristics		Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Current		$I_{RM}$	$T_j=25\text{ }^\circ\text{C}$ , $V_{RM}=V_{RRM}$	-	-	3	mA
Peak Forward Voltage		$V_{FM}$	$T_j=25\text{ }^\circ\text{C}$ , $I_{FM}=3.0\text{A}$	-	-	0.55	V
Thermal Resistance	Junction to Ambient	$R_{th(j-a)}$	*1	-	-	108	$^\circ\text{C}/\text{W}$
	Junction to Lead	$R_{th(j-l)}$	-	-	-	23	

\*1 Alumina Substrate Mounted  
Soldering Lands=2x2mm, Both Sides

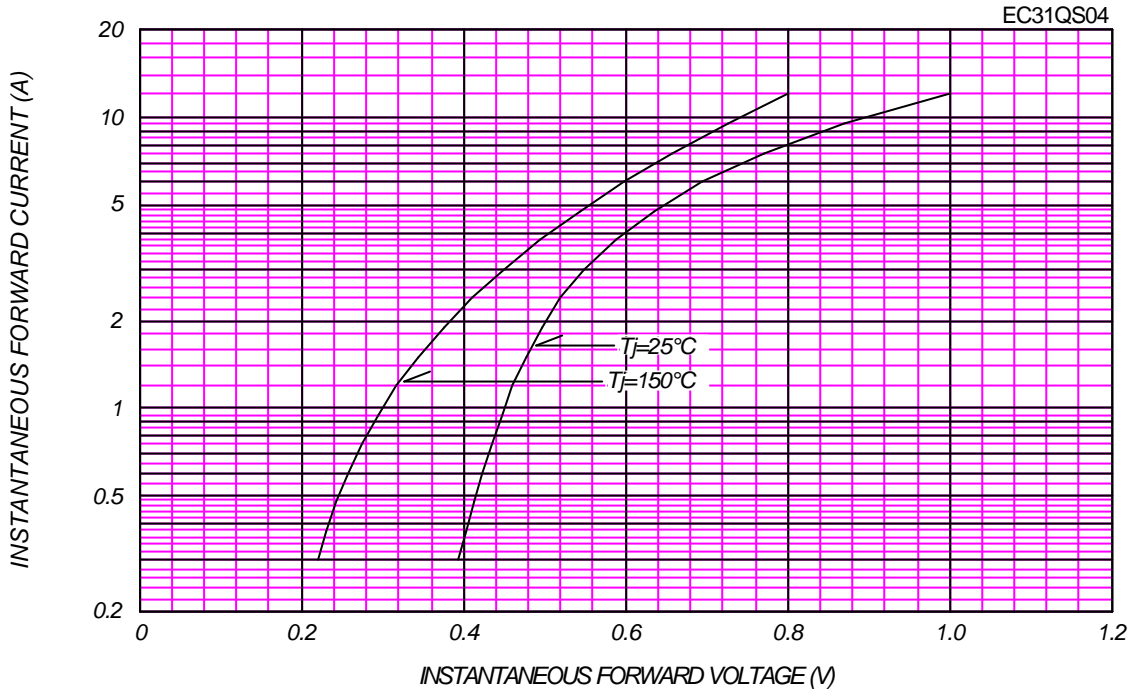
EC31QS\_ OUTLINE DRAWING (Dimensions in mm)



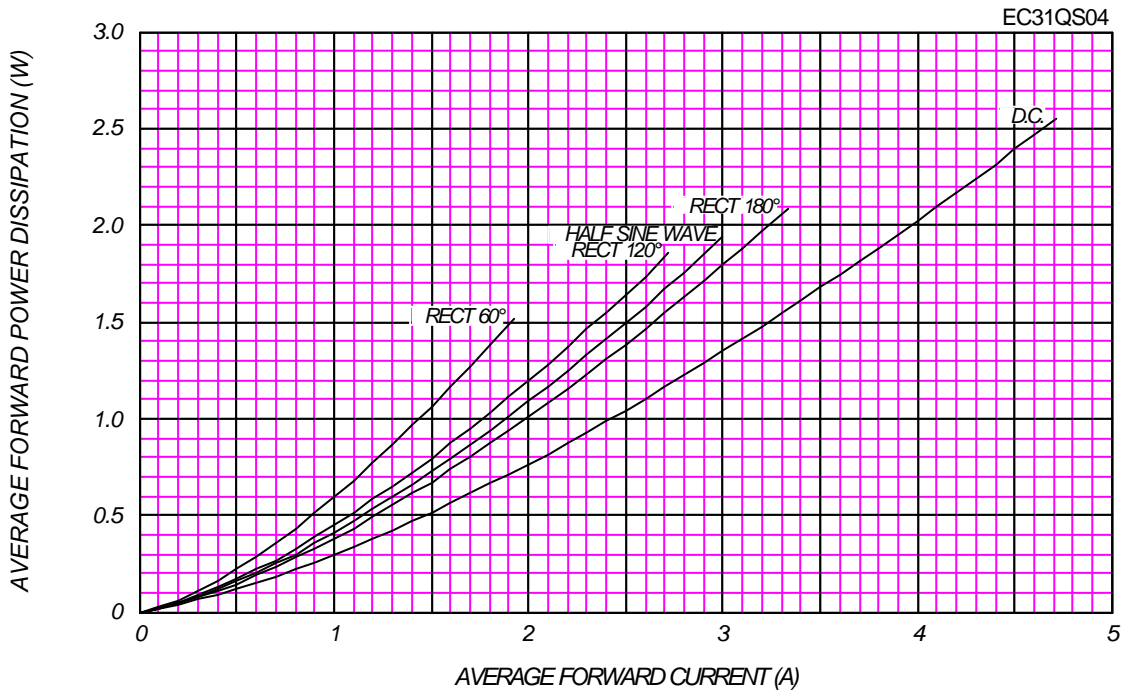
SOLDERING PAD



FORWARD CURRENT VS. VOLTAGE



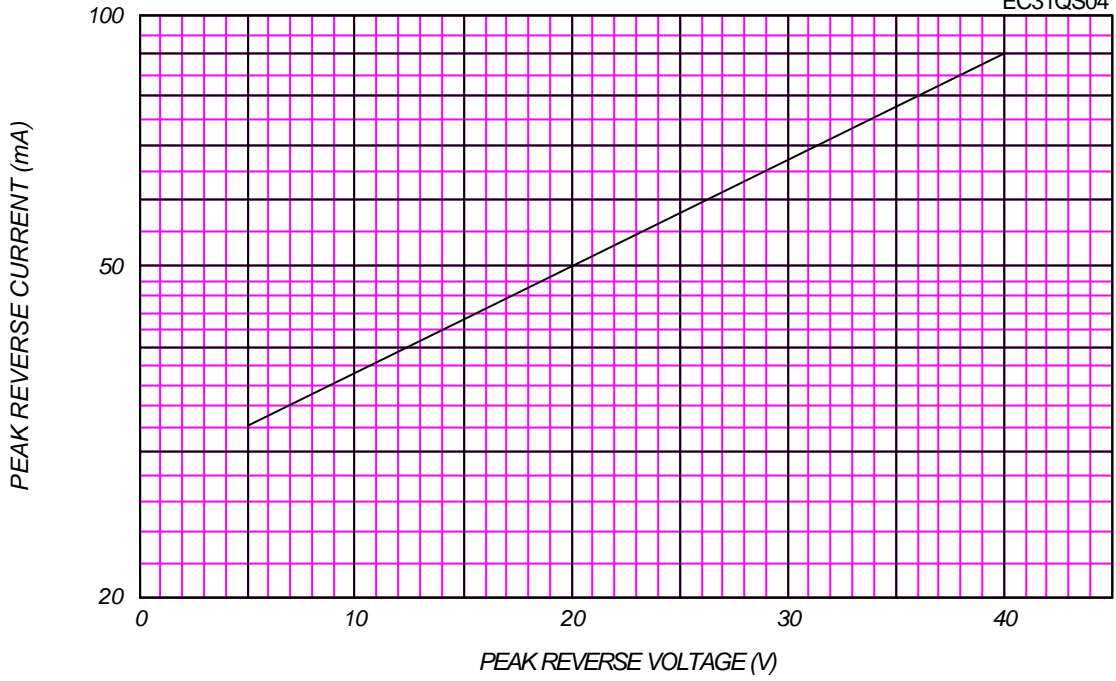
AVERAGE FORWARD POWER DISSIPATION



PEAK REVERSE CURRENT VS. PEAK REVERSE VOLTAGE

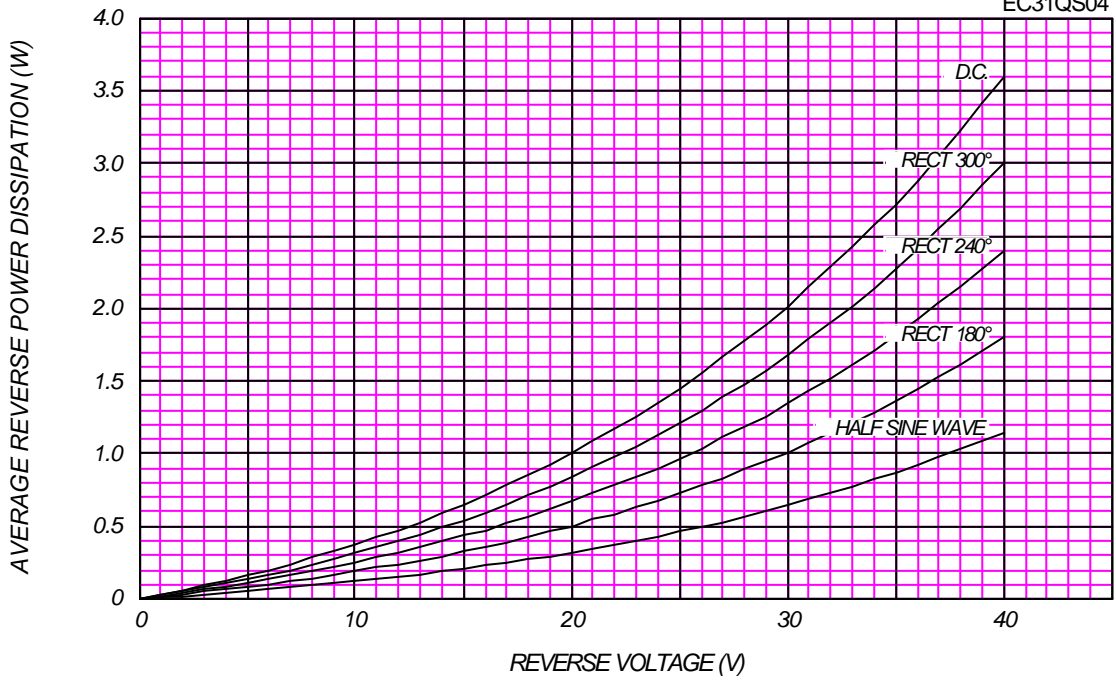
T<sub>j</sub> = 150 °C

EC31QS04



AVERAGE REVERSE POWER DISSIPATION

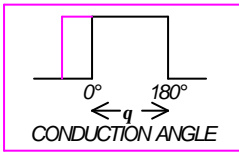
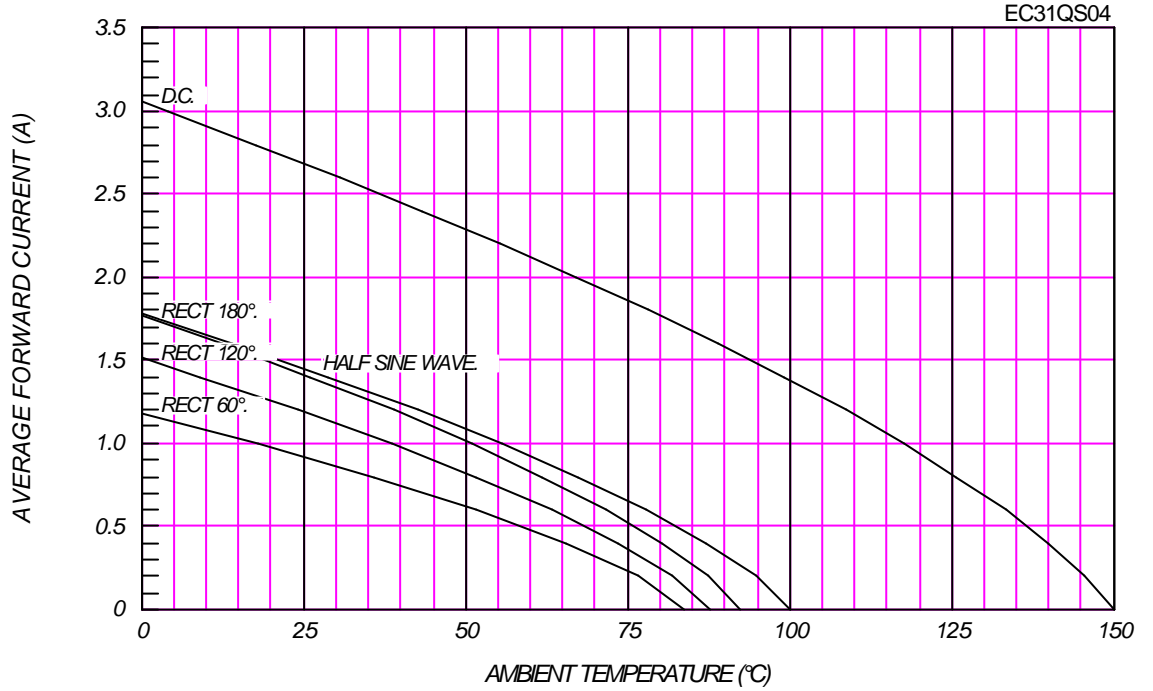
EC31QS04





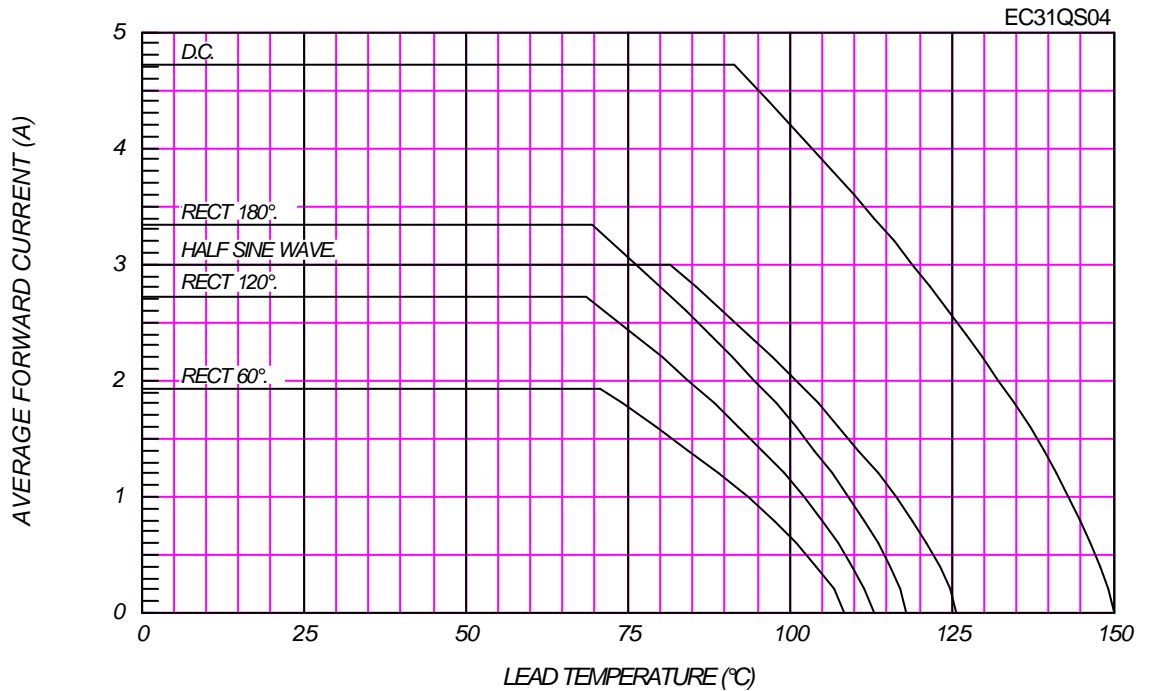
### AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE

Alumina Substrate Mounted (Soldering Land = 2x2 mm),  $V_{RM} = 40V$



### AVERAGE FORWARD CURRENT VS. LEAD TEMPERATURE

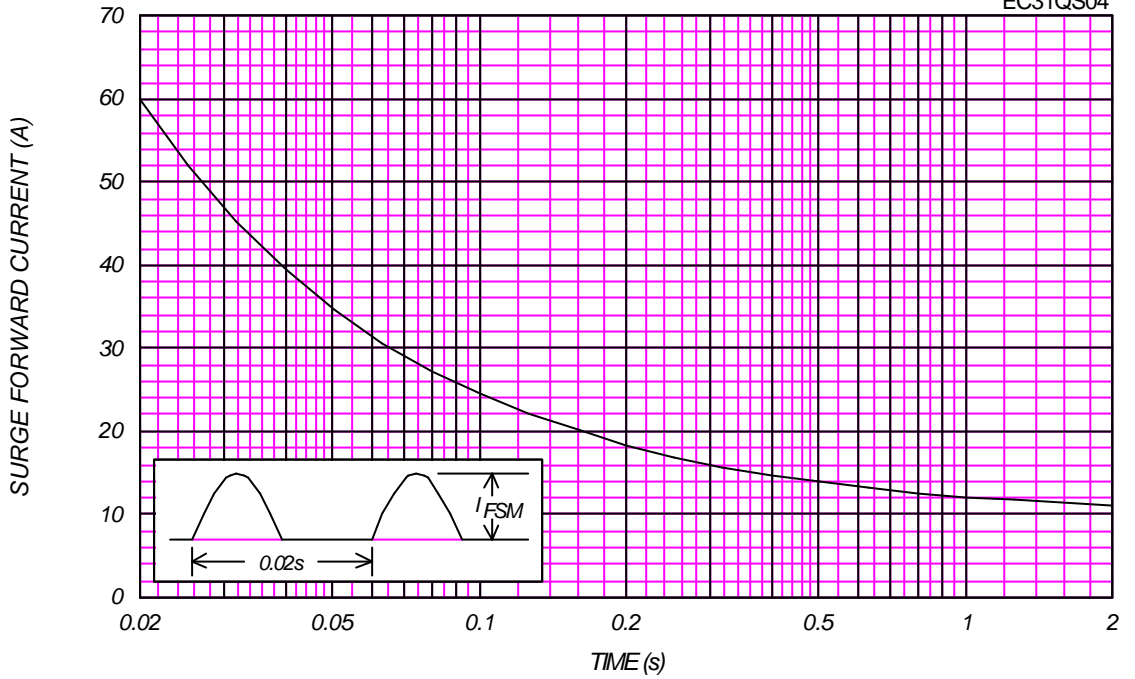
$V_{RM} = 40V$



### SURGE CURRENT RATINGS

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

EC31QS04



### JUNCTION CAPACITANCE VS. REVERSE VOLTAGE

$T_j=25^\circ\text{C}$ ,  $V_m=20\text{mV}_{\text{RMS}}$ ,  $f=100\text{kHz}$ , Typical Value

EC31QS04

