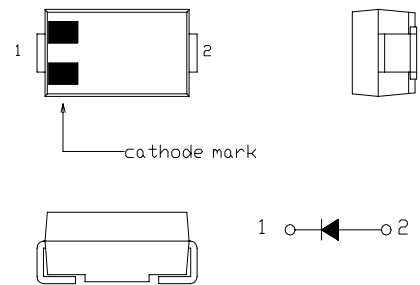


# SBD Type : EC30LA02

## FEATURES

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

## OUTLINE DRAWING



## Maximum Ratings

Approx Net Weight: 0.06g

Rating	Symbol	EC30LA02		Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	20		V
Repetitive Peak Surge Reverse Voltage	$V_{RRSM}$	25 (pulse width $\leq 1\mu s$ duty $\leq 1/50$ )		V
Average Rectified Output Current	$I_o$	2.1	$T_a=25^\circ C$ *1 50Hz Half Sine	A
		3.0	$T_l=85^\circ C$ $T_l=Lead$ Wave Resistive Load	
RMS Forward Current	$I_{F(RMS)}$	4.71		A
Surge Forward Current	$I_{FSM}$	50	50Hz Half Sine Wave, 1cycle Non-repetitive	A
Operating Junction Temperature Range	$T_{jw}$	-40 to +125		$^\circ C$
Storage Temperature Range	$T_{stg}$	-40 to +125		$^\circ C$

## Electrical • Thermal Characteristics

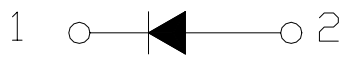
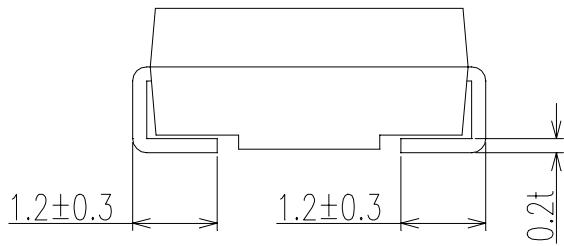
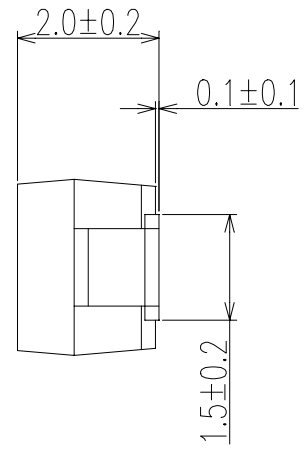
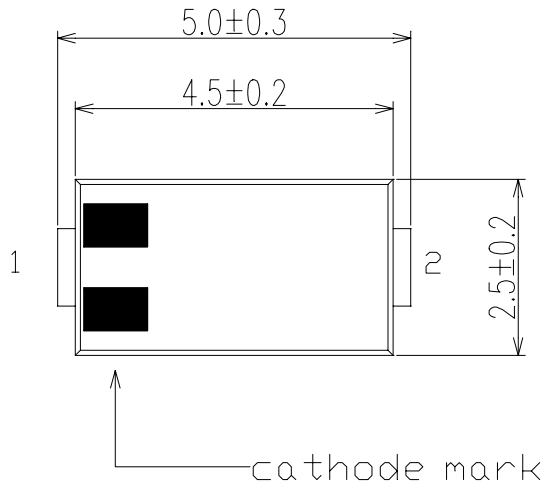
Characteristics	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Current	$I_{RM}$	$T_j= 25^\circ C, V_{RM}= V_{RRM}$	-	-	3	mA
Peak Forward Voltage	$V_{FM}$	$T_j= 25^\circ C, I_{FM}= 3.0A$	-	-	0.39	V
Thermal Resistance	Junction to Ambient	$R_{th(j-a)}$	Alumina Substrate mounted *1		108	$^\circ C/W$
	Junction to Lead	$R_{th(j-l)}$	-		23	

\*1: Alumina Substrate mounted (Soldering Lands=2x2mm, Both Sides)

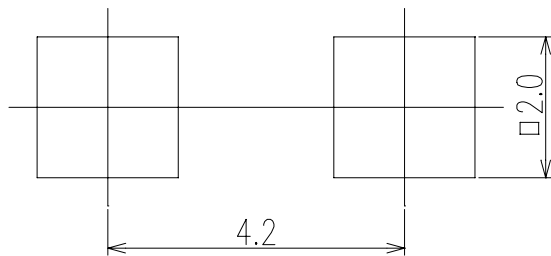
The curves of Average Forward Current vs. Temperature are the value that do not consider Reverse Power Dissipation.

In actual use, consider the Reverse Power Dissipation to avoid thermal runaway of the diode.

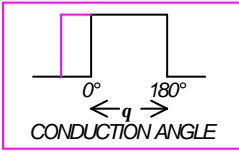
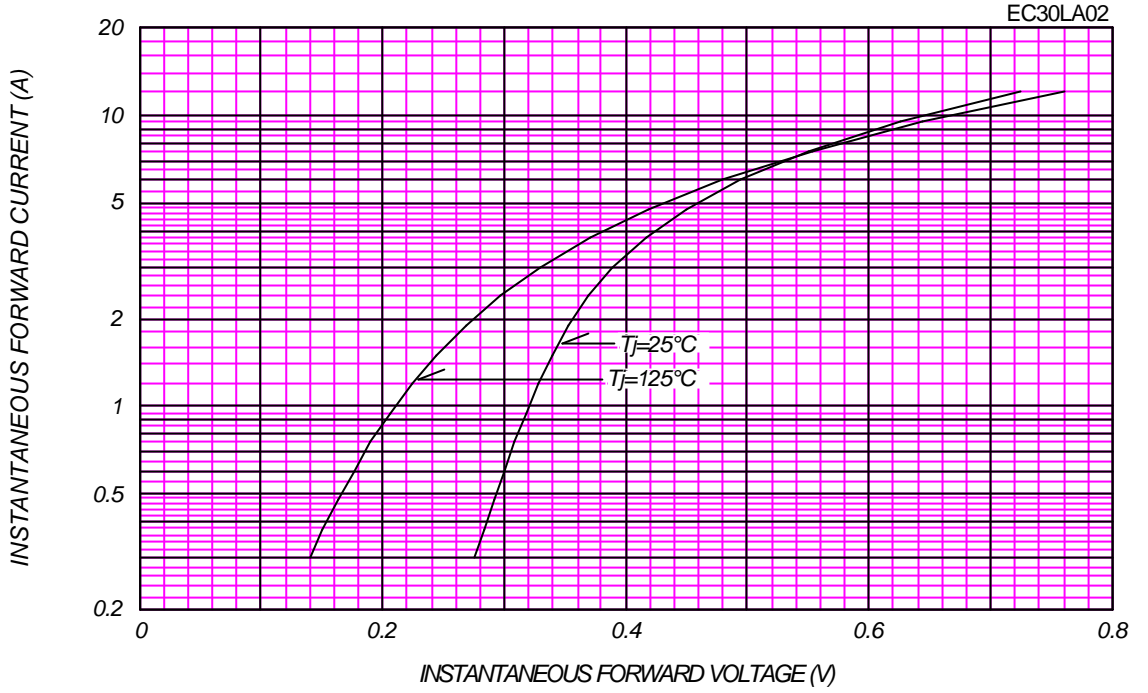
EC30LA\_ OUTLINE DRAWING (Dimensions in mm)



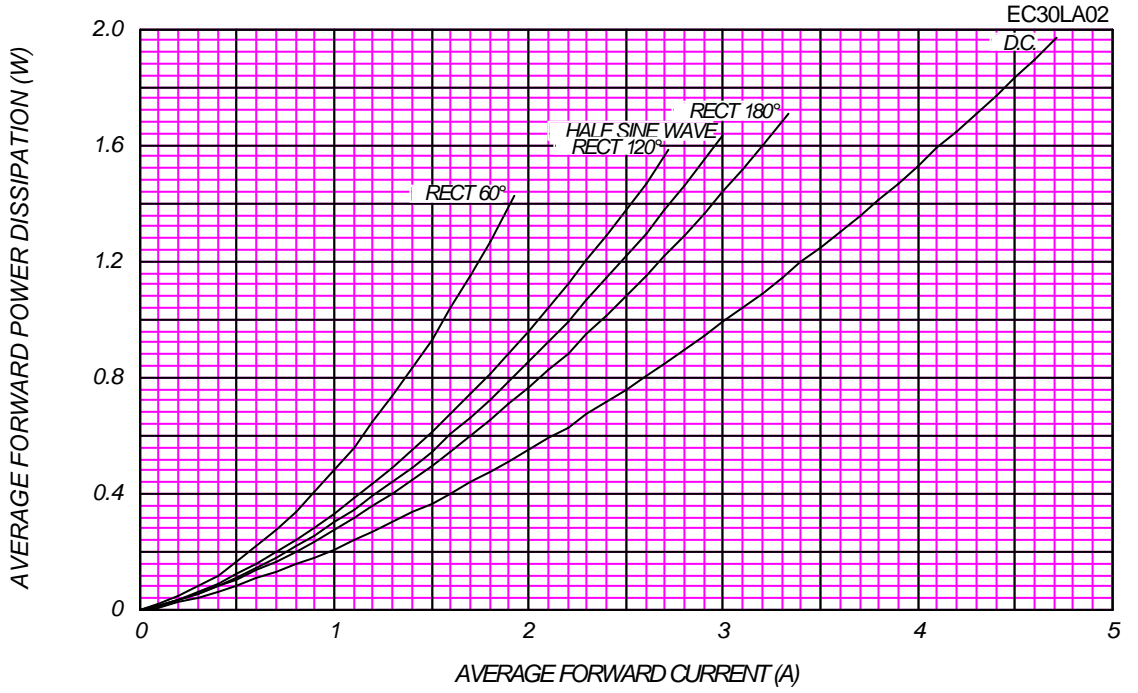
soldering pad



FORWARD CURRENT VS. VOLTAGE



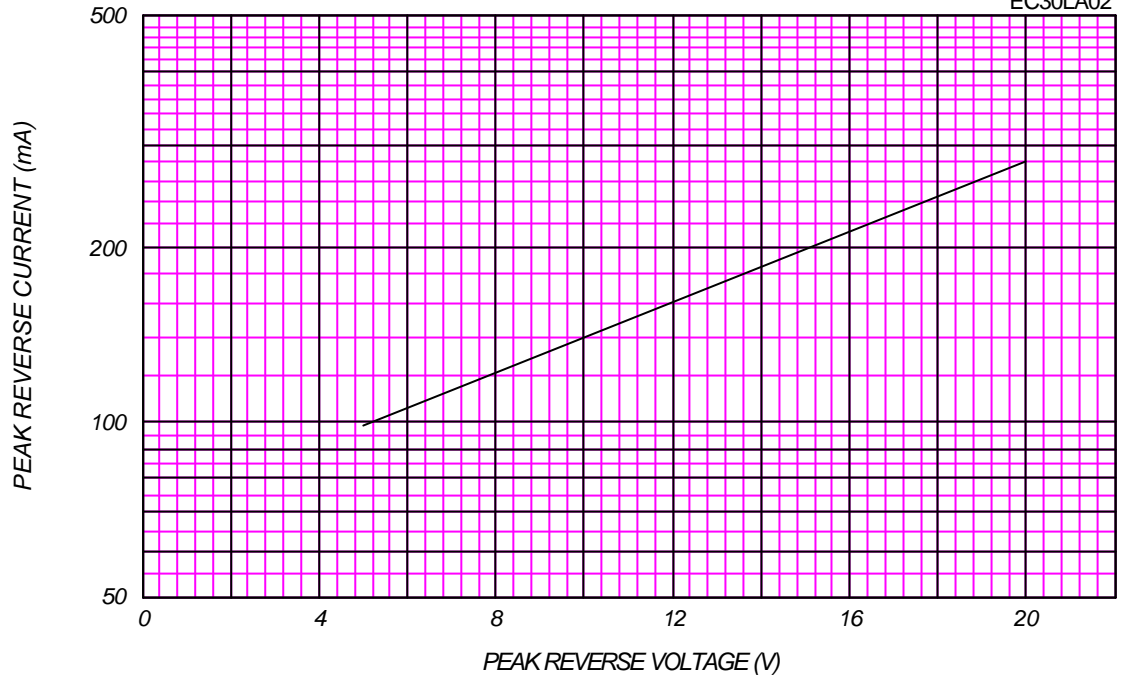
AVERAGE FORWARD POWER DISSIPATION



PEAK REVERSE CURRENT VS. PEAK REVERSE VOLTAGE

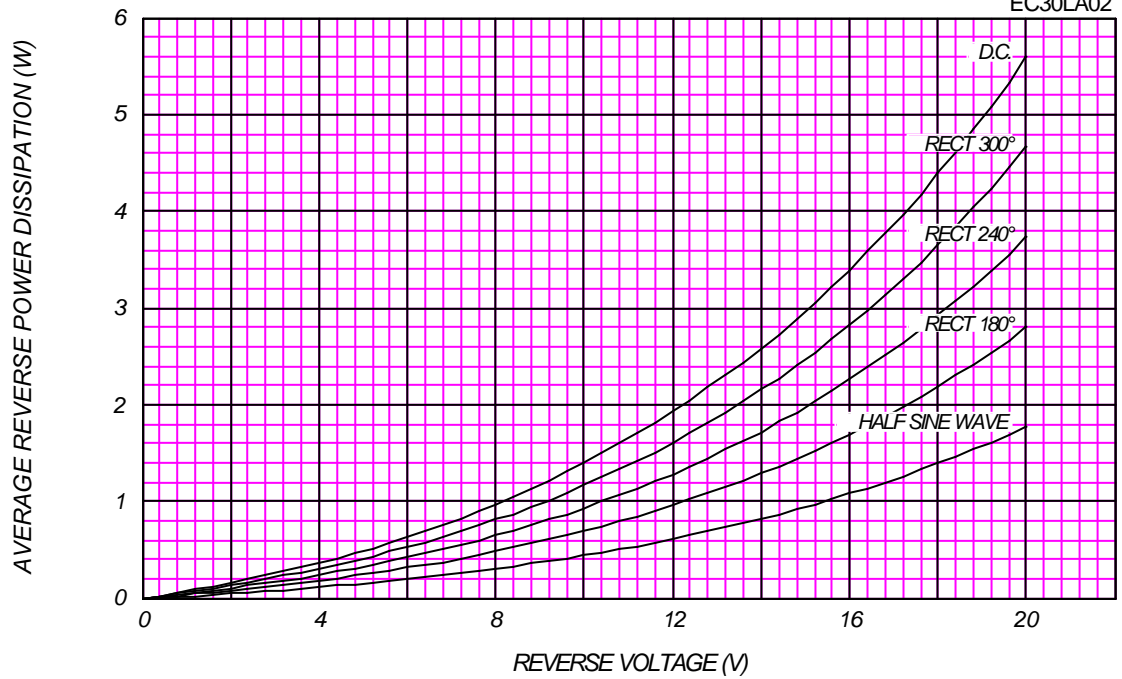
$T_j = 125\text{ }^\circ\text{C}$

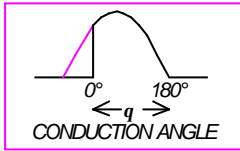
EC30LA02



AVERAGE REVERSE POWER DISSIPATION

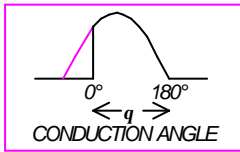
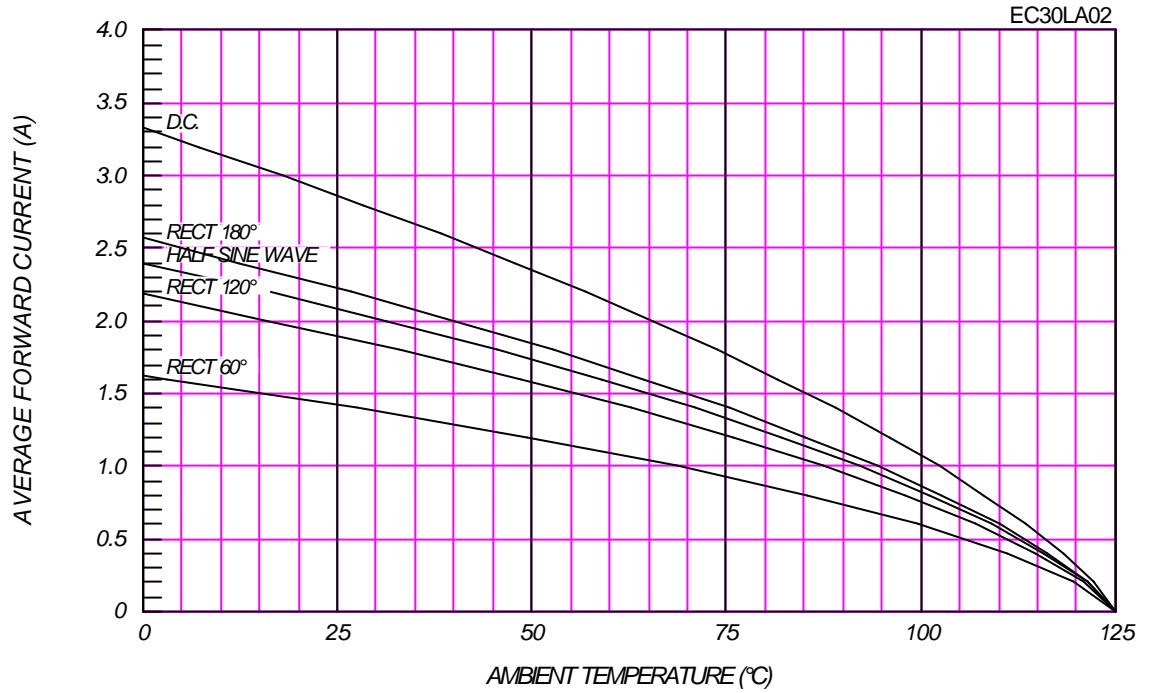
EC30LA02





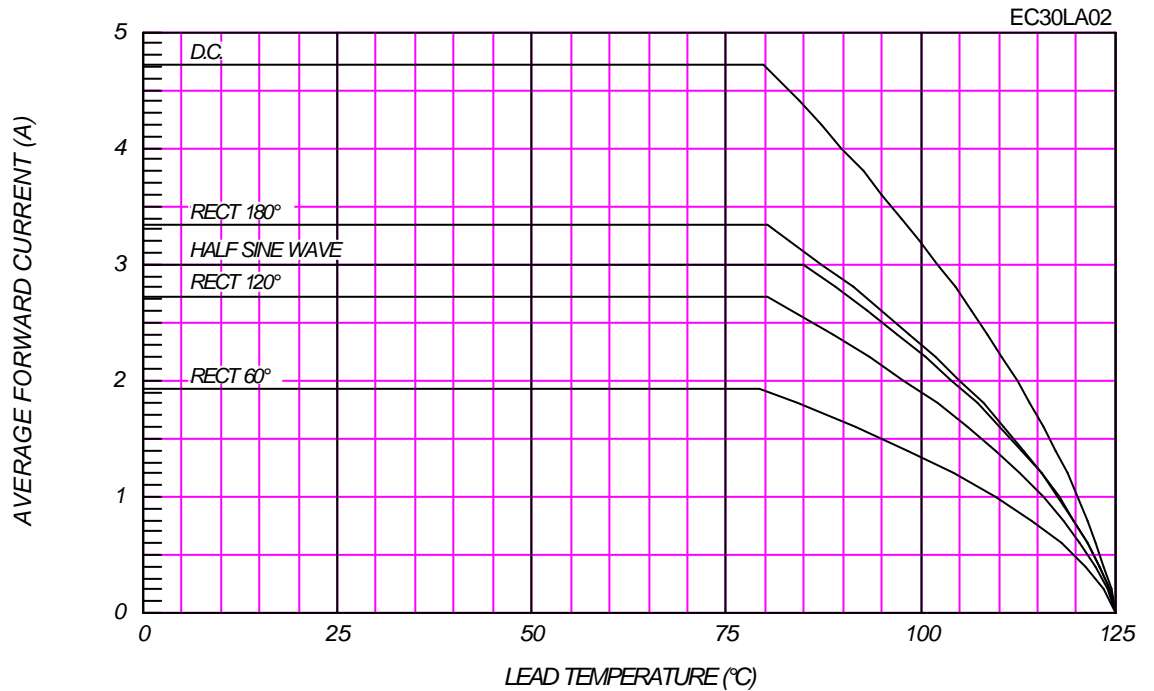
### AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE

Alumina Substrate mounted ( $L_{and}=2 \times 2 \text{mm}$ ),  $V_{RM}=0V$



### AVERAGE FORWARD CURRENT VS. LEAD TEMPERATURE

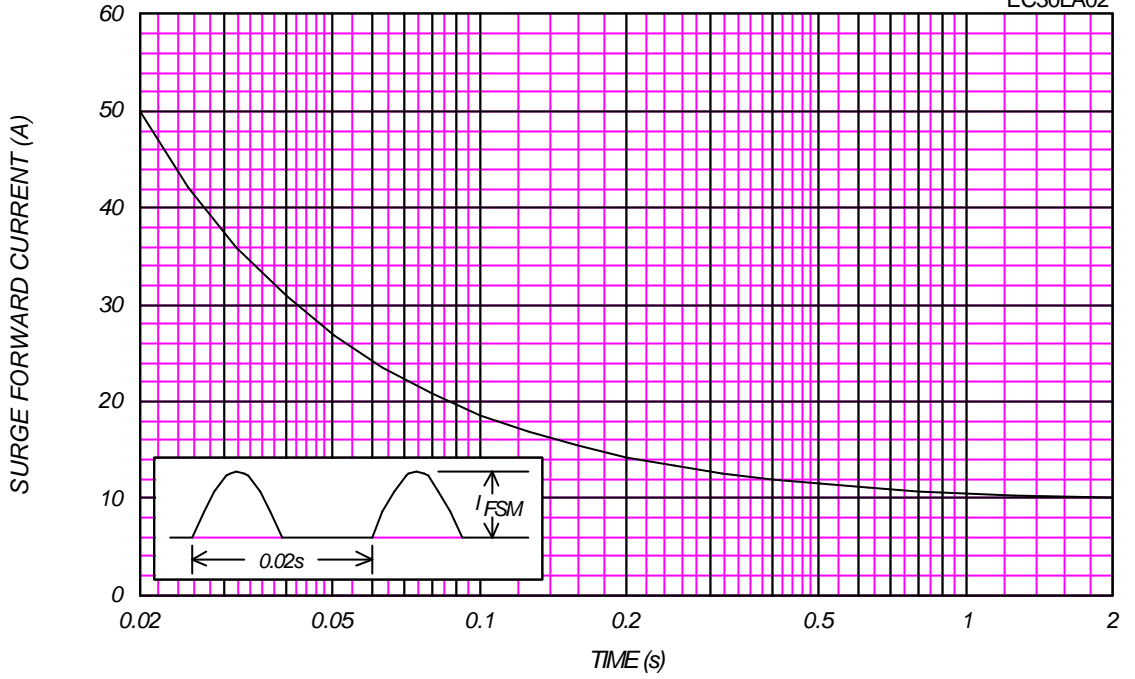
$V_{RM}=0V$



### SURGE CURRENT RATINGS

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

EC30LA02



### JUNCTION CAPACITANCE VS. REVERSE VOLTAGE

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

EC30LA02

