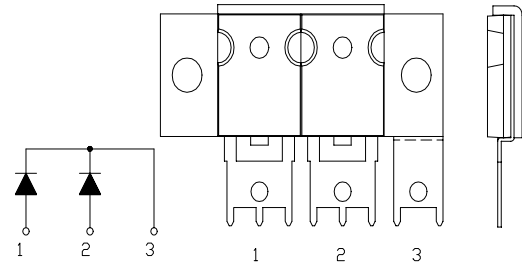


# SBD Type : KCQ120A06E

OUTLINE DRAWING

### FEATURES

- \*Similar to TO-247AC (TO-3P) Case
- \*Dual Diodes – Cathode Common
- \*Low Forward Voltage Drop
- \*Low Power Loss,High Efficiency
- \*High Surge Capability
- \*T<sub>j</sub>=150 °C operation



### Maximum Ratings

Approx Net Weight: 30g

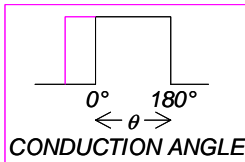
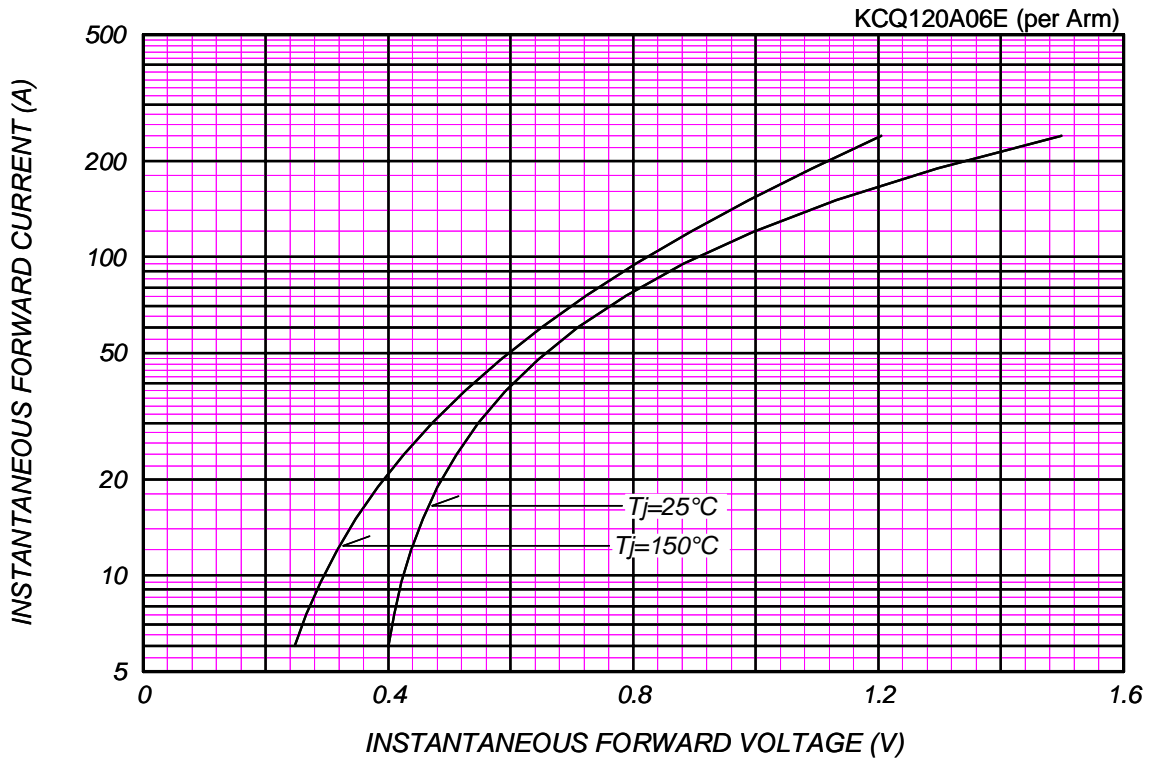
Rating	Symbol	KCQ120A06E		Unit
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	60		V
Average Rectified Output Current	I <sub>O</sub>	120	T <sub>c</sub> =74°C 50 Hz Full Sine Wave Resistive Load	A
RMS Forward Current	I <sub>F(RMS)</sub>	133		A
Surge Forward Current	I <sub>FSM</sub>	700	50Hz Full Sine 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
Mounting torque	F <sub>tor</sub>	Anode,Kathode Lead recommended torque 0.5		N•m
		Kathode Base recommended torque 2.4		

### Electrical • Thermal Characteristics

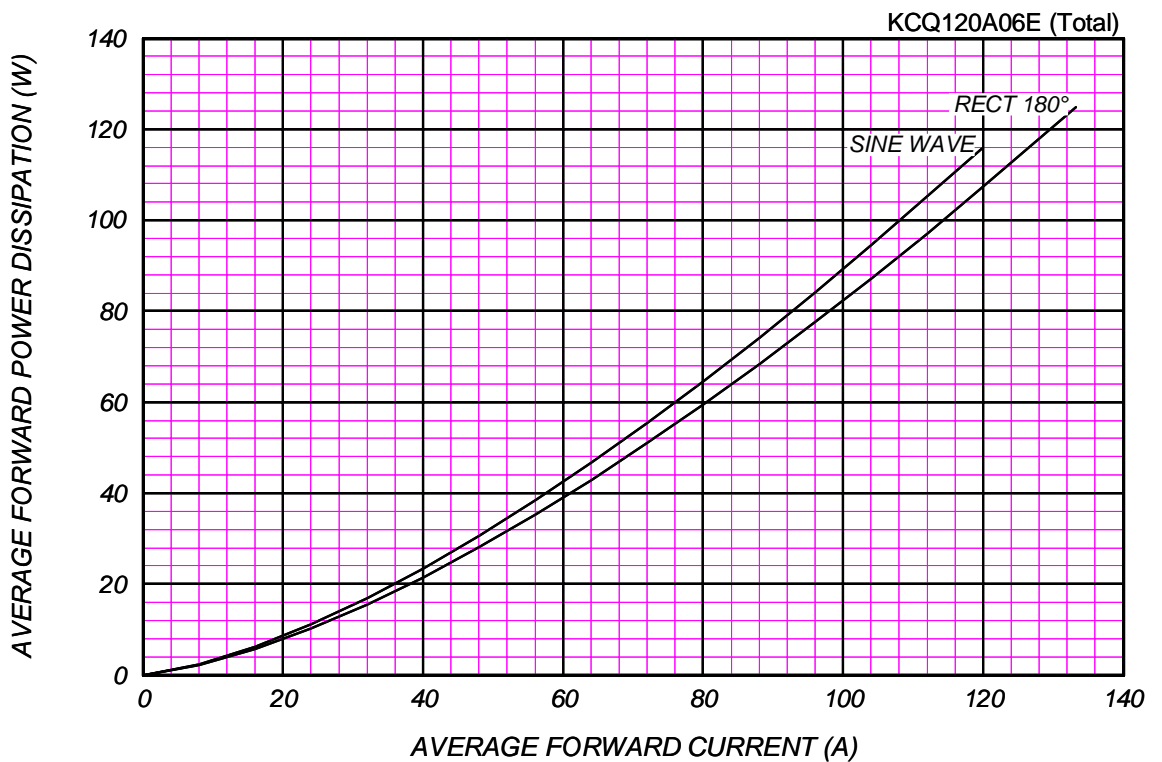
Characteristics	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Current	I <sub>RM</sub>	T <sub>j</sub> = 25°C, V <sub>RM</sub> = V <sub>RRM</sub> per arm	-	-	40	mA
Peak Forward Voltage	V <sub>FM</sub>	T <sub>j</sub> = 25°C, I <sub>FM</sub> = 60 A per arm	-	-	0.71	V
Thermal Resistance (Junction to Case)	R <sub>th(j-c)</sub>	Junction to Case	-	-	0.45	°C/W



### FORWARD CURRENT VS. VOLTAGE



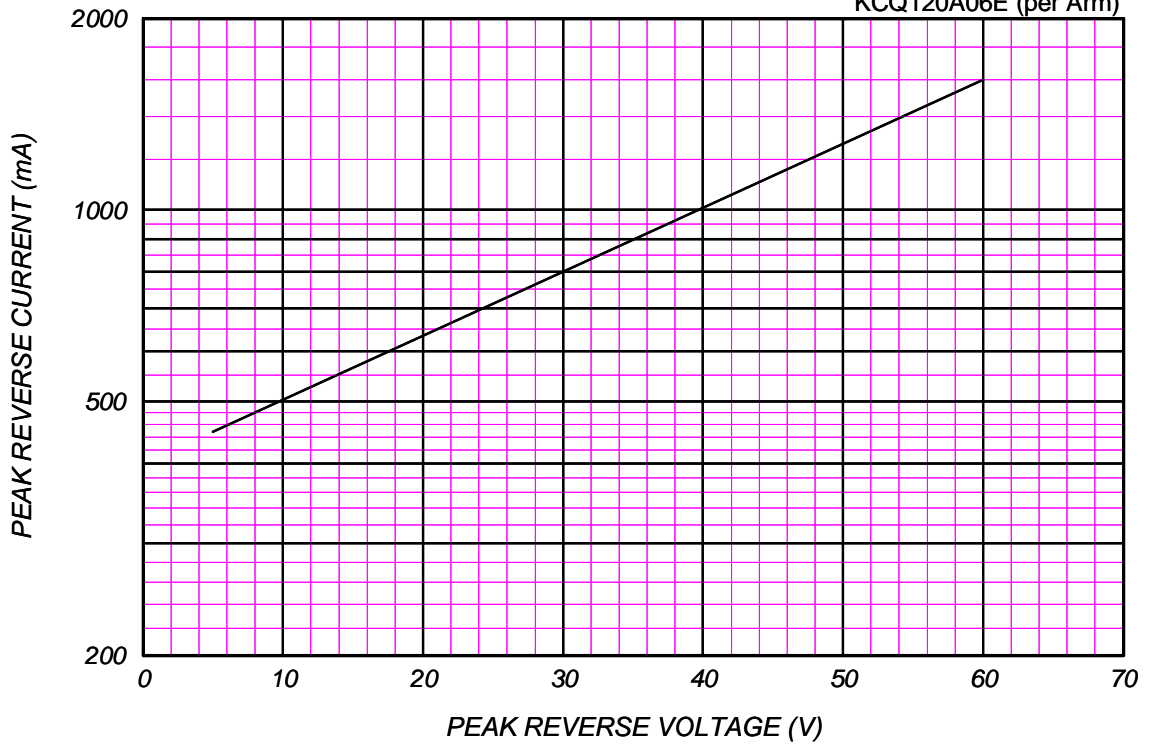
### AVERAGE FORWARD POWER DISSIPATION



### PEAK REVERSE CURRENT VS. PEAK REVERSE VOLTAGE

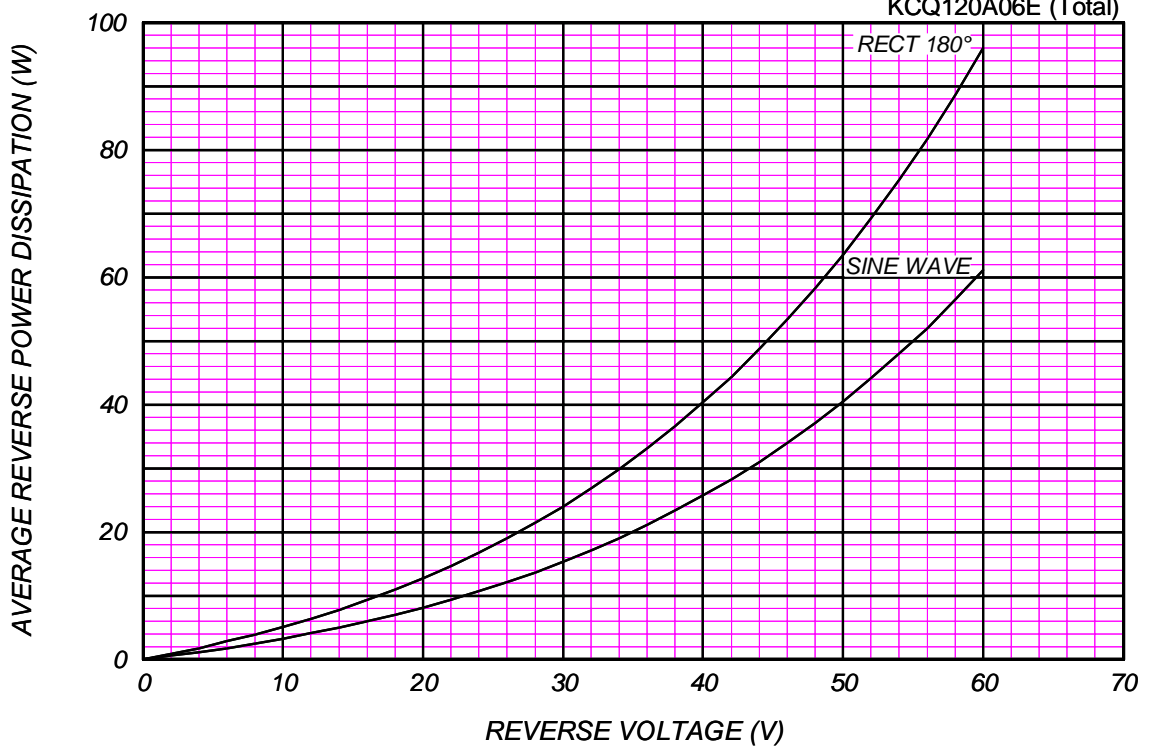
$T_j = 150\text{ }^\circ\text{C}$

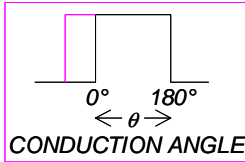
KCQ120A06E (per Arm)



### AVERAGE REVERSE POWER DISSIPATION

KCQ120A06E (Total)

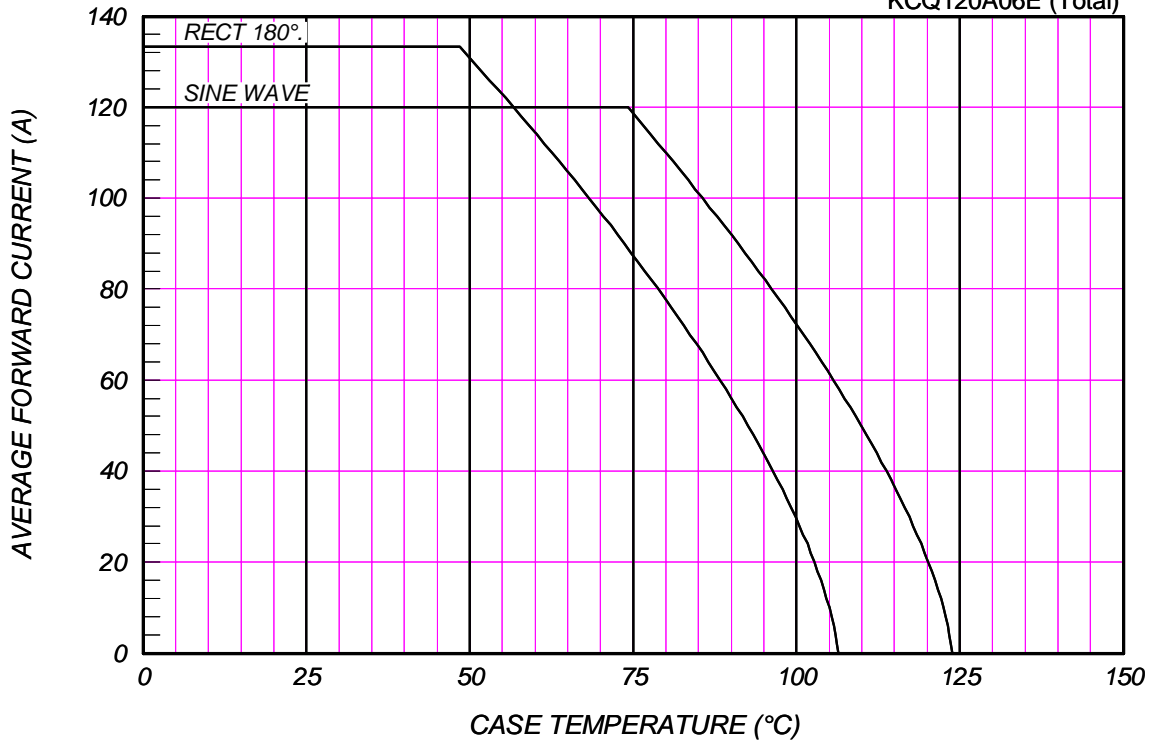




### AVERAGE FORWARD CURRENT VS. CASE TEMPERATURE

$V_{RM}=60V$

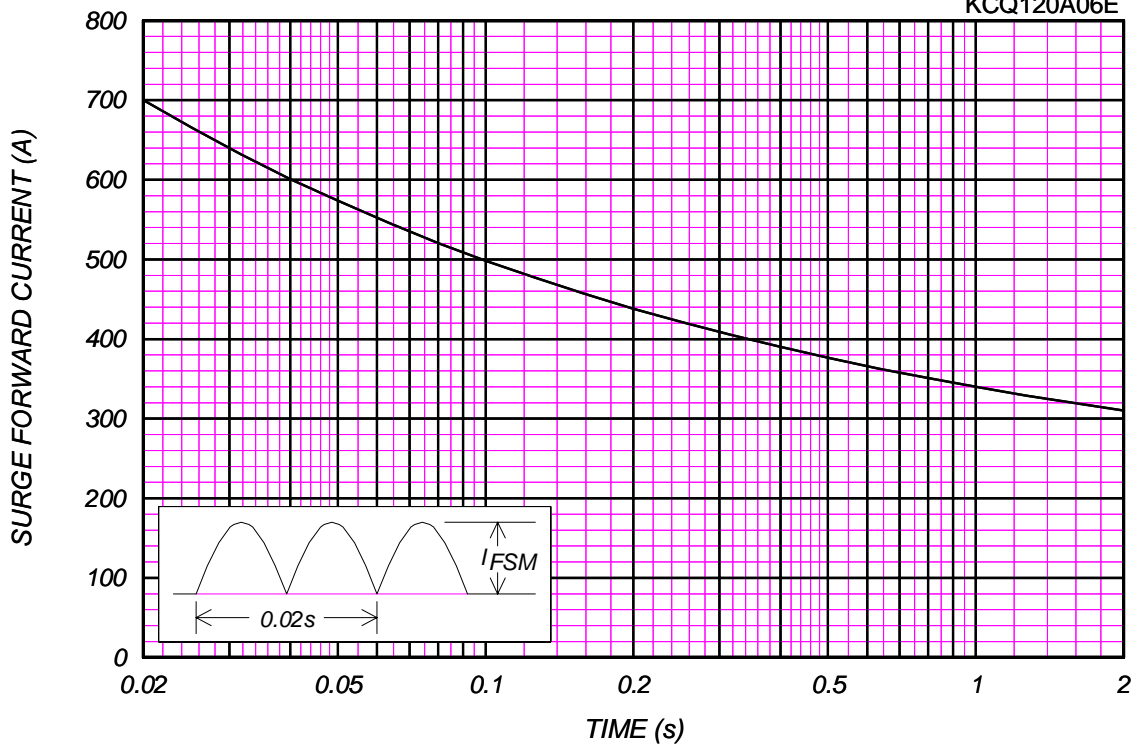
KCQ120A06E (Total)



### SURGE CURRENT RATINGS

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

KCQ120A06E



# JUNCTION CAPACITANCE VS. REVERSE VOLTAGE

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

KCQ120A06E (per Arm)

