



BCB60-1600-T7

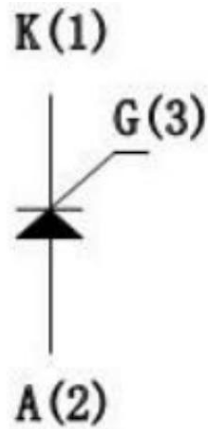
Silicon Controlled Rectifier

Features

- Adopts proprietary single-sided grooving technology
- Surface glass passivation process
- Backside multi-layer metallized electrode
- High blocking voltage and excellent temperature stability

Applications

- Heating controllers(temperature regulation)
- Color light controllers
- Solid state relays
- Motor speed controllers for vacuum cleaners, power tools and other phase-controlled circuits



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Maximum Ratings(at $T_A = 25^\circ\text{C}$, unless specified otherwise.)

Parameter	Symbol	Conditions		Value	Unit
RMS On-State Current	$I_{T(RMS)}$	BCB	$T_C=90^\circ\text{C}$	60	A
Surge On-state Current	I_{TSM}	$F=50\text{Hz}, t=20\text{ms}$		600	A
I^2t Limit Value	I^2t	$t_p=10\text{ms}$		1800	A^2S
Critical Rate of Rise of On-State Current	di/dt	$T_j=125^\circ\text{C}$		150	$\text{A}/\mu\text{s}$
Repetitive Peak Off-State Voltage	V_{DRM}	$T_j=25^\circ\text{C}$		1600	V
Repetitive Peak Reverse Voltage	V_{RRM}	$T_j=25^\circ\text{C}$		1600	V
Peak Gate Current	I_{GM}	$t_p=20\mu\text{s}, T_j=125^\circ\text{C}$		8	A
Average Gate Power Dissipation	$P_{G(AV)}$	$T_j=125^\circ\text{C}$		1	W
Operating Junction Temperature	T_J			$-40\sim+125$	$^\circ\text{C}$
Storage Temperature	T_{STG}			$-40\sim+150$	$^\circ\text{C}$



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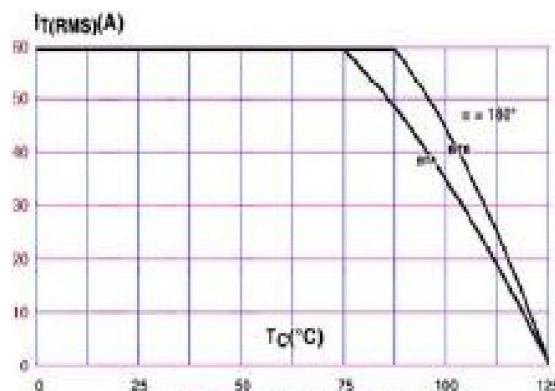
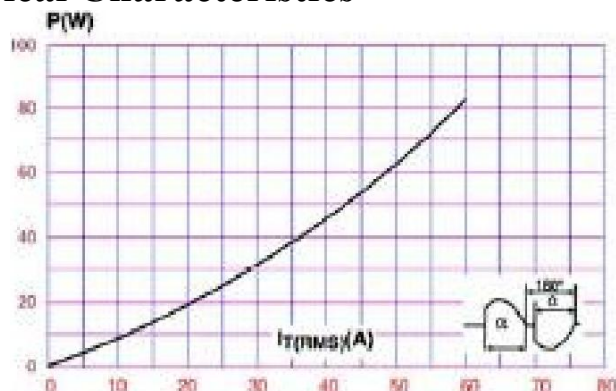
Electrical Characteristics

Parameter	Symbol	Conditions	Quadrants	Min	Max	Unit
Trigger Current	I_{GT}	$V_D=12V, R_L=100\Omega$	I	-	60	mA
Trigger Voltage	V_{GT}			-	1.5	V
Non Trigger Voltage	V_{GD}			0.2	-	V
Holding Current	I_H	$I_T=0.5A$		-	80	mA
Latching Current	I_L	$I_G=1.2I_{GT}$		-	100	mA
Critical Rate of Rise of Off-State Voltage	dv/dt	$V_D=2/3*V_{DRM}, T_j=125^\circ C$		1500	-	V/ μs
Critical Rate of Rise of Off-State Voltage at Commutation	$(dv/dt)_c$	$T_j=125^\circ C$		-	-	V/ μs

Static Parameters

Parameter	Symbol	Conditions	Min	Max	Unit
Peak On-State Voltage	V_{TM}	$T_j=25^\circ C$	-	1.50	V
Threshold voltage	V_{T0}	$T_j=125^\circ C$	-	0.86	V
Resistance	R_d	$T_j=125^\circ C$	-	6.4	m Ω
Repetitive Peak Off-State Current	I_{DRM}	$T_j=25^\circ C$	-	20	μA
	I_{RRM}	$T_j=125^\circ C$	-	3	mA
Junction to Case (DC)	$R_{th(j-c)}$	BCB	-	0.6	$^\circ C/W$

Typical Characteristics





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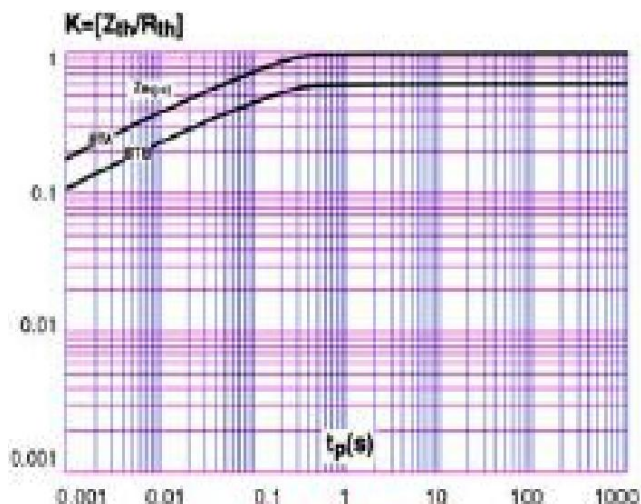


Fig3. Transient Thermal Resistance Curve

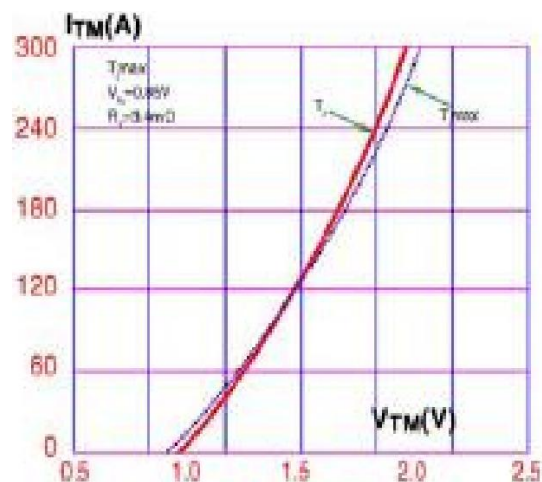


Fig4. On-State V-I Characteristics Curve

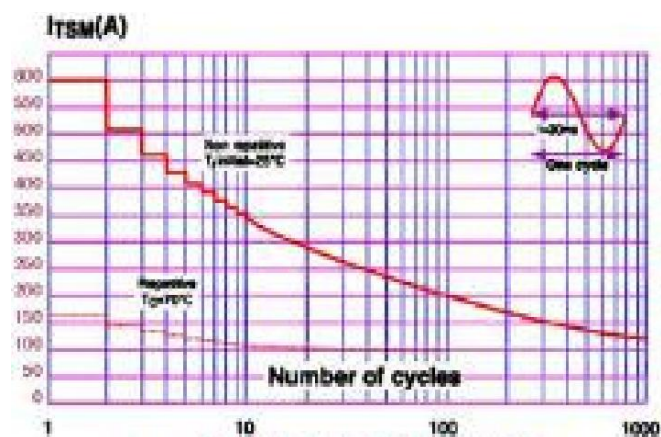


Fig5. Surge Current vs Number of cycles

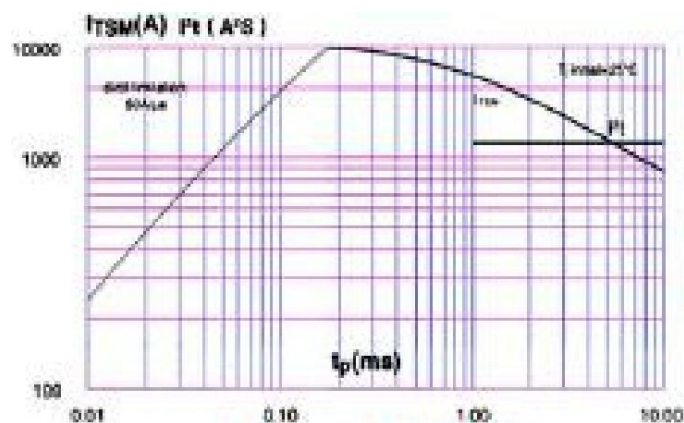


Fig6. I_{TSM} -t, I^2t -t Curve

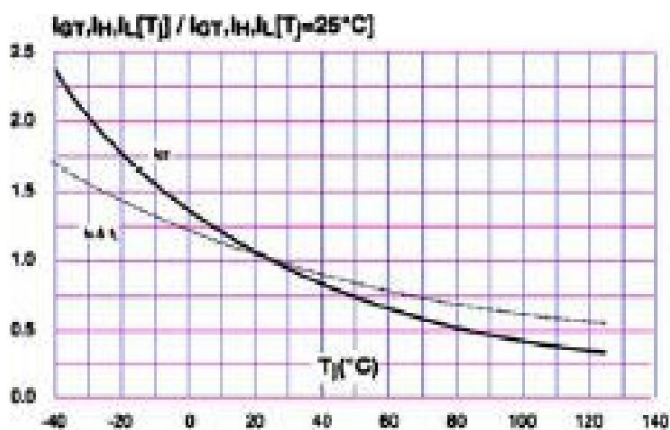
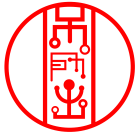


Fig7. Gate Trigger Characteristics Curve

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Dimensions in mm (± 0.1)





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