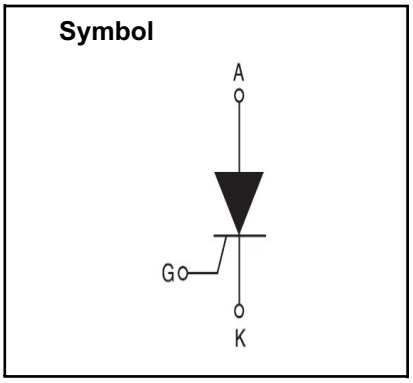
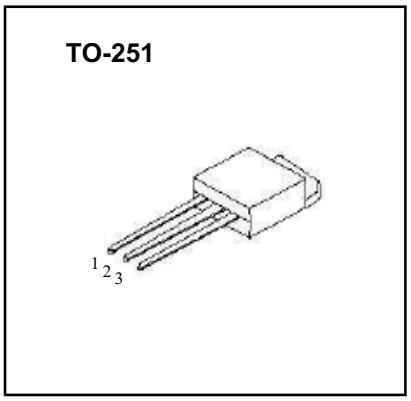
4A SCRs



FEATURES

- Repetitive Peak Off-State Voltage : 600V
- R.M.S On-State Current ($I_{T(RMS)}$= 4 A)
- Sensitive Gate Triggering ($I_{GT} \leq$200uA)



DESCRIPTION

Highly sensitive triggering levels, the BT148 Series SCRs is suitable for all applications, where the available gate current is limited,such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies...

ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		Tstg	- 40 to +150	℃
Operrating junction temperature range		Tj	- 40 to +110	℃
Repetitive Peak Off-state Voltage	Tj=25℃	V_{DRM}	600	V
Repetitive Peak Reverse Voltage	Tj=25℃	V_{RRM}	600	V
RMS on-state current (180 conduction angle)	Tc=30℃	$I_{T(RMS)}$	4	A
Average on-state current (180 conduction angle)	Tc=30℃	$I_{T(AV)}$	2.5	A
Non repetitive surge peak on-state current (Tj=25℃)	tp=10ms	I_{TSM}	30	A
	tp=8.3ms		33	A
I^2t Value for fusing	tp=10ms	I^2t	4.5	A^2s
Peak gate current tp=20us,Tj=110℃		I_{GM}	1.2	A
Average gate power dissipation Tj=110℃		$P_{G(AV)}$	0.2	W

ELECTRICAL CHARACTERISTICS(Tj=25℃ unless otherwise specified)

Symbol	Test Condition		BT148			Unit
			Min.	Typ.	Max.	
I_{GT}	V_D=6V R_L=100Ω		-	40	200	μA
V_{GT}			-	0.6	0.8	V
V_{GD}	V_D=V_{DRM} R_L=3.3KΩ R_{GK}=1KΩ Tj =110℃		0.2	-	-	V
I_L	I_G=1mA R_{GK}=1KΩ		-	-	6	mA
I_H	I_T =50mA R_{GK}=1KΩ		-	-	5	mA
V_{TM}	I_T = 8A tp=380uS	Tj=25 ℃	-	1.4	1.8	V
dV/dt	V_D=67%V_{DRM} R_{GK}=1KΩ	Tj=110 ℃	10	-	-	V/μs
I_{DRM}	V_D= V_{DRM} R_{GK}=1KΩ	Tj=25 ℃	-	-	5	μA
		Tj=110 ℃	-	-	0.1	mA
I_{RRM}	V_R = V_{RRM} R_{GK}=1KΩ	Tj=25 ℃	-	-	5	μA
		Tj=110 ℃	-	-	0.1	mA

FIG.1: Maximum power dissipation versus RMS on-state current(full cycle)

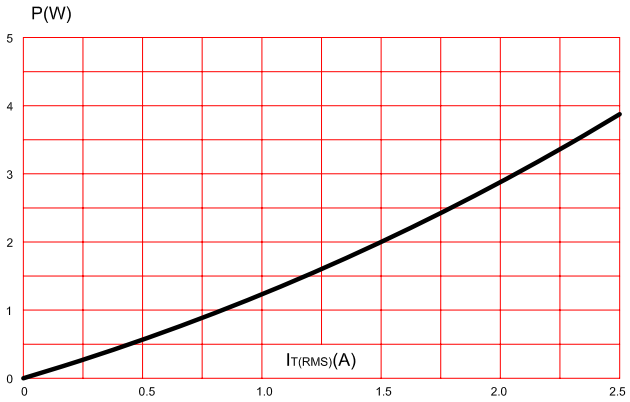


FIG.2: Average on-state current versus case temperature(full cycle)

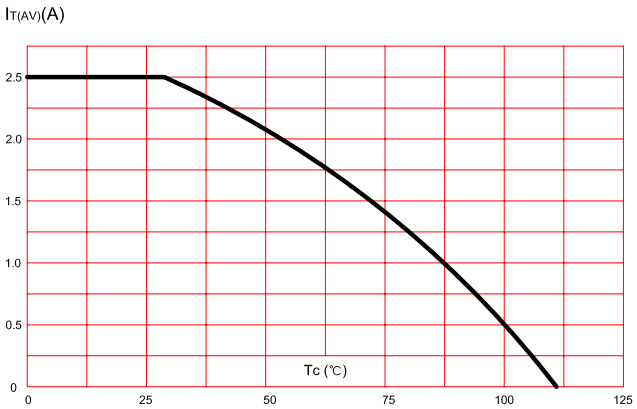


FIG.3: On-state characteristics (maximum values)

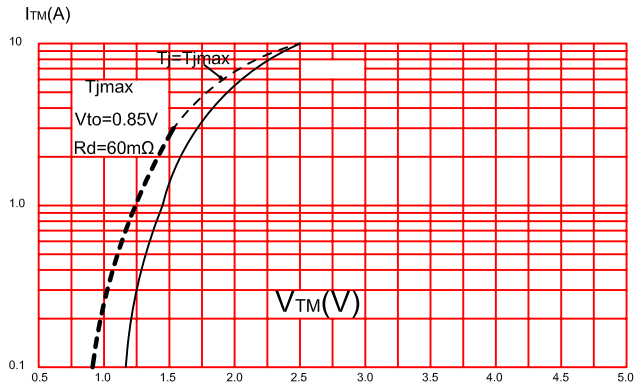


FIG.4: Surge peak on-state current versus number of cycles.

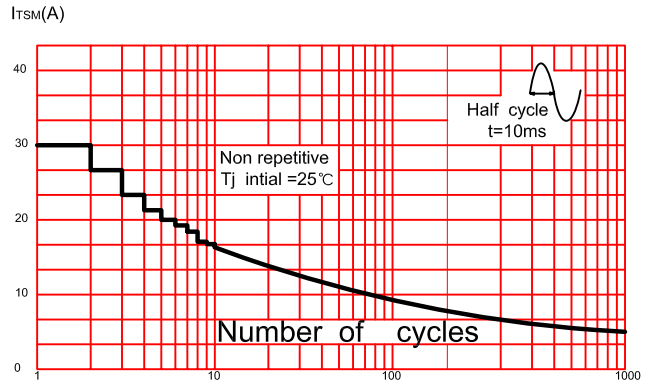


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms.

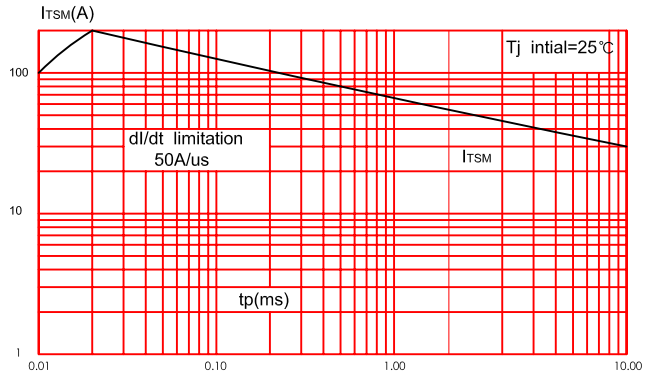
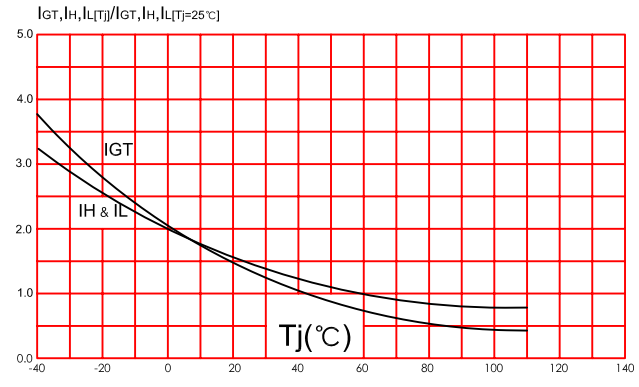
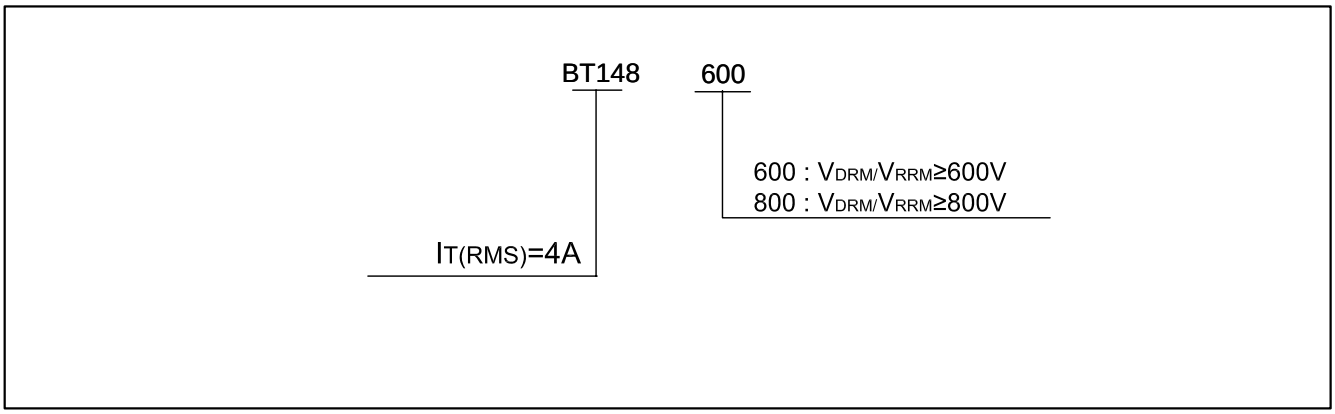


FIG.6: Relative variation of gate trigger current,holding current and latching current versus junction temperature(typical values).



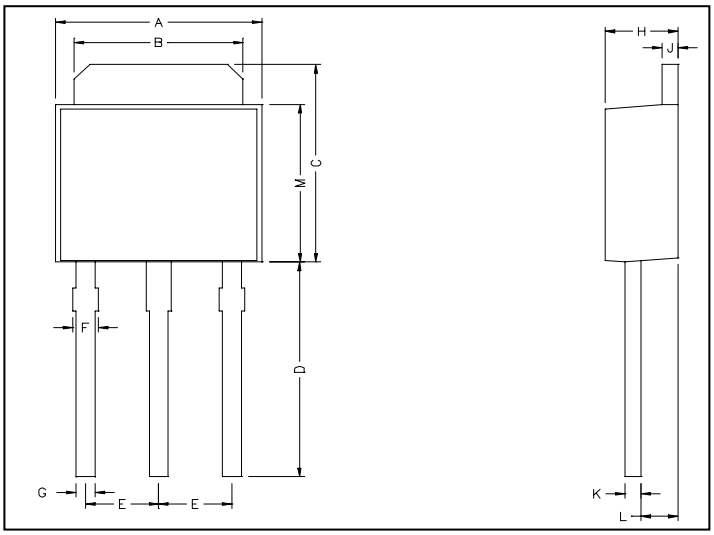
ORDERING INFORMATION



THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(J-C)}$	Junction to Case	TO-251	15	℃/W

TO-251 Package Dimension



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.40	6.80	G	0.50	0.70
B	5.20	5.50	H	2.20	2.40
C	6.80	7.20	J	0.45	0.55
D	7.20	7.80	K	0.45	0.60
E	2.30 REF.		L	0.90	1.50
F	0.60	0.90	M	5.40	5.80