

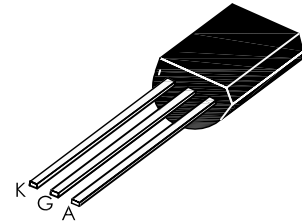


## BT169 Series 0.8A SENSITIVE SCRs

### DESCRIPTION:

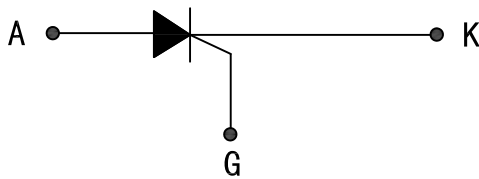
Highly sensitive triggering levels, the BT169 Series SCRs is suitable for all applications, where the available gate current is limited, such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies...

TO-92



### MAIN FEATURES

Symbol	Value	Unit
IT(AV)	0.5	A
VDRM/VRRM	400 and 600	V
IGT	≤ 200	μA



### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit	
Storage junction temperature range	Tstg	- 40 to +150	°C	
Operating junction temperature range	Tj	- 40 to +110	°C	
Repetitive Peak Off-state Voltage	Tj=25°C	VDRM	400 and 600	V
Repetitive Peak Reverse Voltage	Tj=25°C	VRRM	400 and 600	V
RMS on-state current (180° conduction angle)	Tc=77°C	IT(RMS)	0.8	A
Average on-state current (180° conduction angle)	Tc=77°C	IT(AV)	0.5	A
Non repetitive surge peak on-state current (Tj=25°C)	tp=10ms	ITSM	8	A
	tp=8.3ms		9	A
I²t Value for fusing	tp=10ms	I²t	0.32	A²s
Peak gate current	tp=20us, Tj=110°C	IGM	0.2	A
Average gate power dissipation	Tj=110°C	PG(AV)	0.1	W

ELECTRICAL CHARACTERISTICS( $T_j=25^\circ\text{C}$  unless otherwise specified)

Symbol	Test Condition		BT169			Unit	
			Min.	Typ.	Max.		
IGT	$V_D=6\text{V}$ $R_L=100\Omega$		-	40	200	$\mu\text{A}$	
VGT			-	0.6	0.8	V	
VGD	$V_D=V_{DRM}$ $R_L=3.3\text{K}\Omega$ $R_{GK}=1\text{K}\Omega$ $T_j=110^\circ\text{C}$		0.2	-	-	V	
IL	$I_G=1\text{mA}$ $R_{GK}=1\text{K}\Omega$		-	-	6	mA	
IH	$I_T=50\text{mA}$ $R_{GK}=1\text{K}\Omega$		-	-	5	mA	
V <sub>TM</sub>	$I_T=1\text{A}$ $t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	-	1.2	1.35	V	
dV/dt	$V_D=67\%V_{DRM}$ $R_{GK}=1\text{K}\Omega$	$T_j=110^\circ\text{C}$	10	-	-	V/ $\mu\text{s}$	
IDRM	$V_D=V_{DRM}$ $R_{GK}=1\text{K}\Omega$		$T_j=25^\circ\text{C}$	-	-	5	$\mu\text{A}$
			$T_j=110^\circ\text{C}$	-	-	0.1	mA
IRRM	$V_R=V_{RRM}$ $R_{GK}=1\text{K}\Omega$		$T_j=25^\circ\text{C}$	-	-	5	$\mu\text{A}$
			$T_j=110^\circ\text{C}$	-	-	0.1	mA

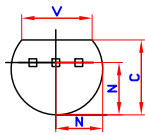
## THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R <sub>th</sub> (J-C)	Junction to Case	TO-92	60	$^\circ\text{C}/\text{W}$

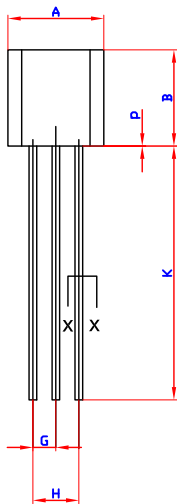
## ORDERING INFORMATION

<p><b>BT169</b></p> <hr/> <p>0.8A Highly Sensitive SCRs</p>	<p><b>D</b></p> <hr/> <p>D:<math>V_{DRM}/V_{RRM}&gt;400\text{V}</math> G:<math>V_{DRM}/V_{RRM}&gt;600\text{V}</math></p>
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PACKAGE MECHANICAL DATA



SECTION X-X



TO-92(TO-226AA)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.45	5.2	0.175	0.205
B	4.32	5.33	0.170	0.210
C	3.18	4.19	0.125	0.165
D	0.407	0.533	0.016	0.021
G	1.15	1.39	0.045	0.055
H	2.42	2.66	0.095	0.105
J	0.39	0.50	0.015	0.020
K	12.70	-	0.500	-
N	2.04	2.66	0.080	0.105
P	-	2.54	-	0.100
V	3.43	-	0.135	-

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

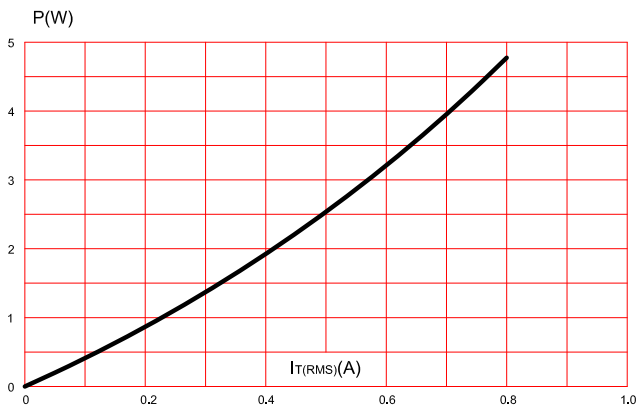


FIG.2: RMS on-state current versus case temperature(full cycle)

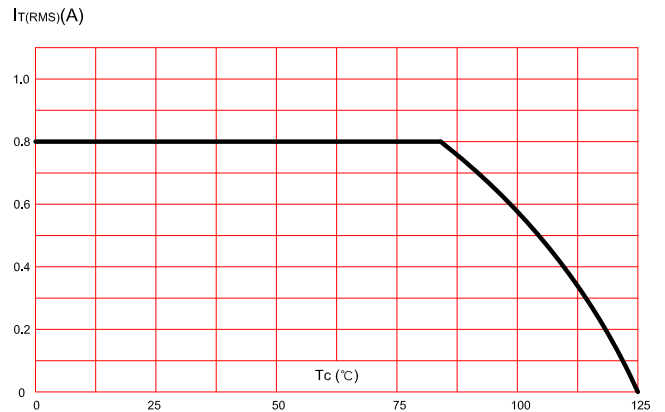


FIG.3: On-state characteristics (maximum values)

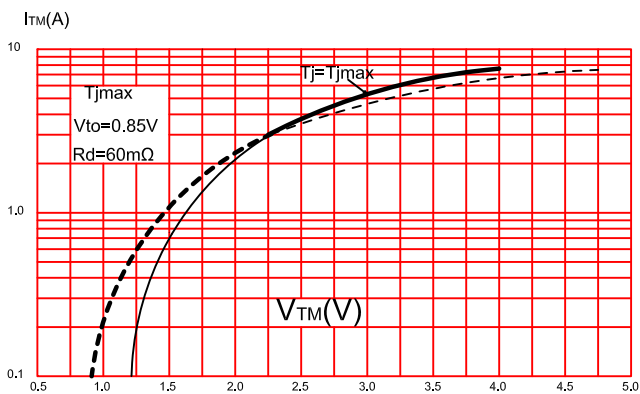


FIG.4: Surge peak on-state current versus number of cycles.

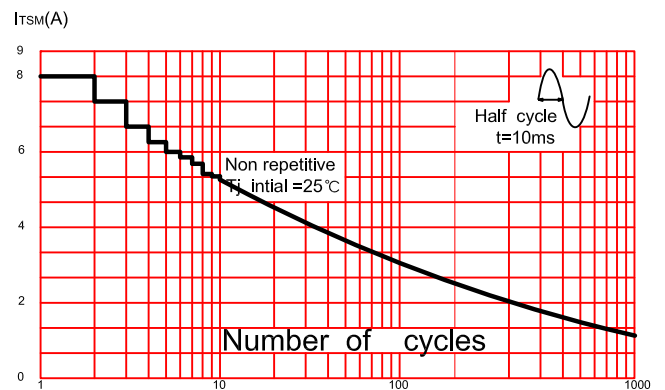


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10ms$ .

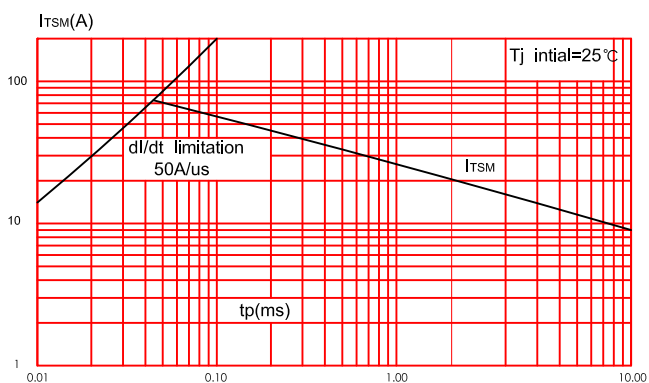


FIG.6: Relative variation of gate trigger current, holding current and latching current versus junction temperature(typical values).

