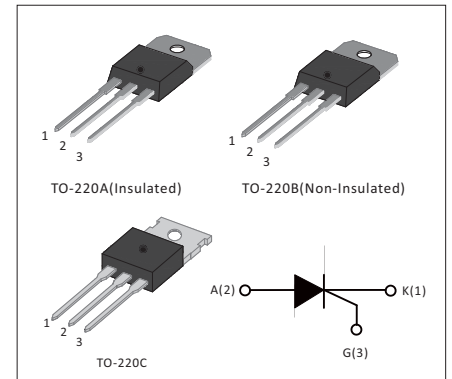


## FEATURES

The 10A Series SCR, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interference. It is especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc.

## MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	10	A
$V_{RRM}/V_{DRM}$	600/800	V
$V_{TM}$	$\leq 1.55$	V



## ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
$V_{DRM}$	Repetitive peak off-state voltage	$T_j=25^\circ\text{C}$	600/800	V
$V_{RRM}$	Repetitive peak reverse voltage	$T_j=25^\circ\text{C}$	600/800	V
$I_{T(RMS)}$	RMS on-state current(360°conduction angle)	TO-220A(Ins) $T_c=90^\circ\text{C}$	10	A
		TO-220B/TO-220C $T_c=110^\circ\text{C}$		
$I_{TSM}$	Non repetitive surge peak on-state current	$T_p=10\text{ms}$	120	A
$I^2t$	$I^2t$ value for fusing	$T_p=10\text{ms}$	72	$\text{A}^2\text{s}$
$di_t/dt$	Repetitive rate of rise of on-state current	$I_G=2I_{GT}$	50	A/us
$I_{GM}$	Peak gate current	$T_j=25^\circ\text{C}$	4	A
$P_{GM}$	Peak gate power	$T_j=25^\circ\text{C}$	5	W
$P_{G(AV)}$	Average gate power dissipation	$T_j=25^\circ\text{C}$	1	W
$T_{stg}$	Storage temperature range		$-40\sim+150$	$^\circ\text{C}$
$T_j$	Operating junction temperature range		$-40\sim+125$	$^\circ\text{C}$

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

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
$I_{GT}$	$V_D=12\text{V } R_L=33\Omega$	-	-	10	mA
$V_{GT}$	$V_D=12\text{V } R_L=33\Omega$	-	-	1.5	V
$V_{GD}$	$V_D=V_{DRM} R_L=33\text{K}\Omega T_j=125^\circ\text{C}$	0.2	-	-	V
$I_H$	$I_T=500\text{mA}$	-	-	40	mA
$I_L$	$I_G=1.2I_{GT}$	-	-	30	mA
$dv/dt$	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$	200	-	-	V/us



### STATIC CHARACTERISTICS

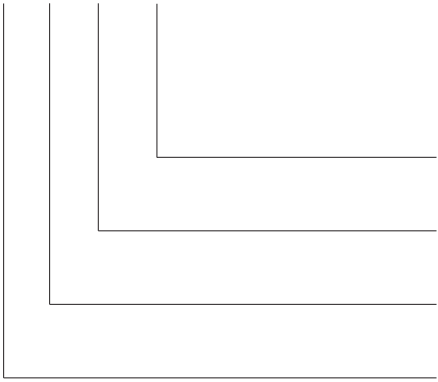
Symbol	Parameter		Value	Unit
$V_{TM}$	$I_{TM}=20A$ $t_p=380\mu s$	$T_j=25^\circ C$	$\leq 1.55$	V
$I_{DRM}$	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ C$	$\leq 5.0$	$\mu A$
$I_{RRM}$	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=125^\circ C$	$\leq 1.0$	mA

### THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220A	2.5	$^\circ C/W$
		TO-220B/TO-220C	1.4	

### PRODUCT IDENTIFICATION

**SC A 10C 60**



$V_{DRM}/V_{RRM}$   
60: 600V 80:800V

$I_{T(RMS)}$   
10C: 10A

**Package**  
A: TO-220A B:TO-220B C:TO-220C

**Product Line**  
SC: Semiware SCRs



PACKAGE MECHANICAL DATA

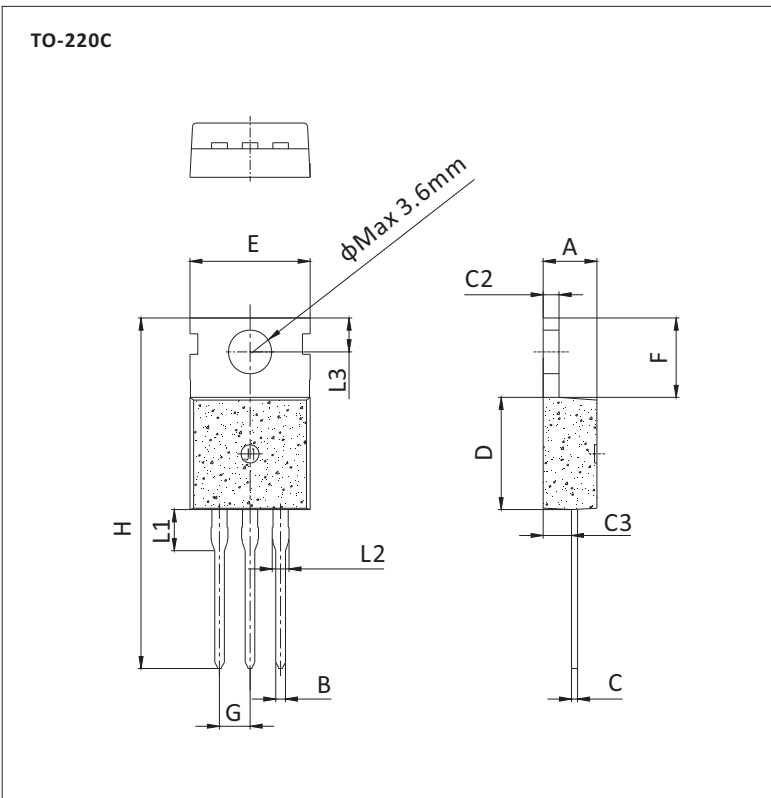
Ref.	Dimensions					
	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

Ref.	Dimensions					
	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

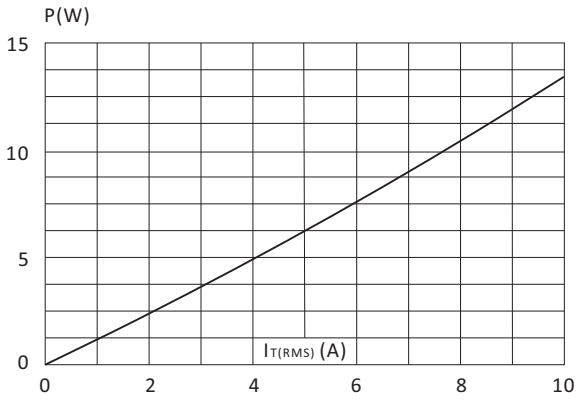


PACKAGE MECHANICAL DATA

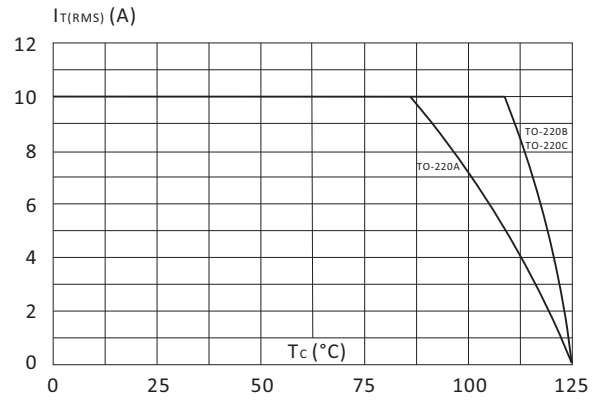
Ref.	Dimensions					
	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.39			0.133	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
φ		3.6			0.142	



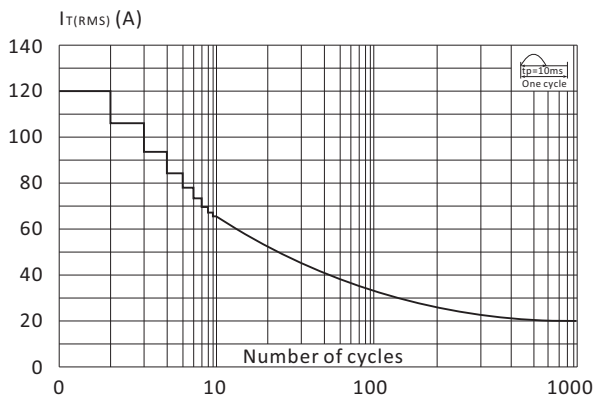
**FIG.1** Maximum power dissipation versus RMS on-state current



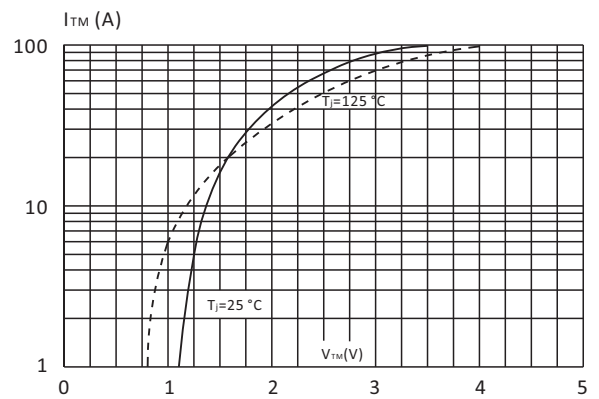
**FIG.2** RMS On-state Current Versus Case Temperature



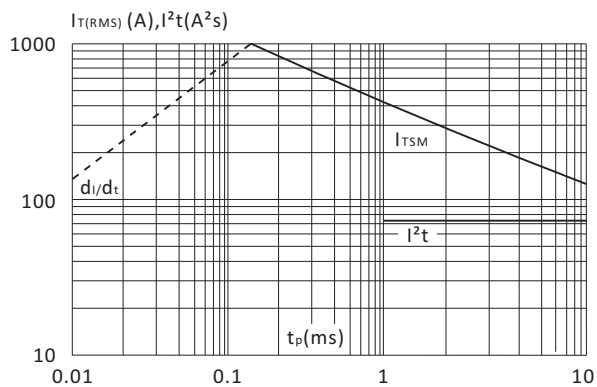
**FIG.3** Surge Peak On-state Current Versus Number Of Cycles



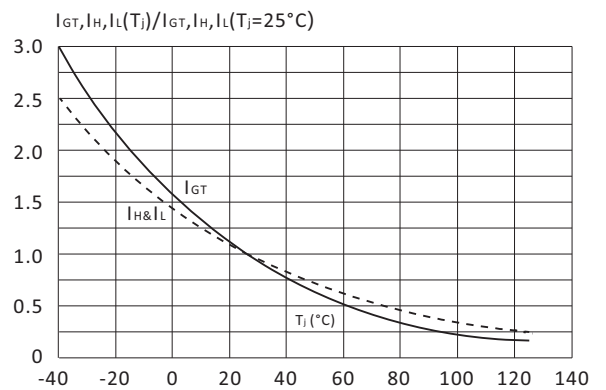
**FIG.4** On-state Characteristics (Maximum Values)



**FIG.5** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , and corresponding value of  $I^2t$



**FIG.6** Relative variations of gate trigger current, holding current and latching current versus junction temperature



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