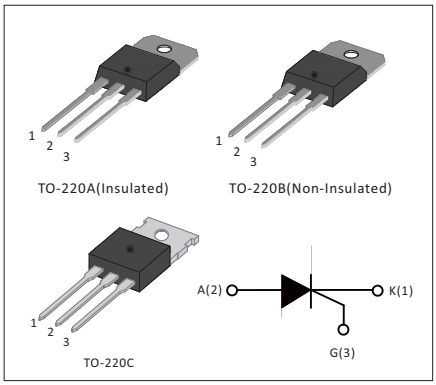
FEATURES

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}	≤1.55	V

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
V_{DRM}	Repetitive peak off-state voltage	T_j=25°C	600/800	V
V_{RRM}	Repetitive peak reverse voltage	T_j=25°C	600/800	V
$I_{T(RMS)}$	RMS on-state current(360°conduction angle)	TO-220A(Ins) T_C=90°C	10	A
		TO-220B/TO-220C T_C=110°C		
I_{TSM}	Non repetitive surge peak on-state current	T_P=10ms	120	A
I^2t	I^2t value for fusing	T_P=10ms	72	A^2s
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°C	4	A
P_{GM}	Peak gate power	T_j=25°C	5	W
$P_{G(AV)}$	Average gate power dissipation	T_j=25°C	1	W
Tstg	Storage temperature range		−40~+150	°C
Tj	Operatingjunction temperaturerange		−40~+125	°C

ELECTRICAL CHARACTERISTICS(Tj=25°C unless otherwise specified)

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

STATIC CHARACTERISTICS

Symbol	Parameter		Value	Unit
V_{TM}	I_{TM}=20A t_p=380μs	T_j=25°C	≤1.55	V
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=25°C	≤5.0	uA
I_{RRM}	V_D=V_{DRM} V_R=V_{RRM}	T_j=125°C	≤1.0	mA

THERMAL RESISTANCES

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

PRODUCT IDENTIFICATION

SC A 10C 60

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

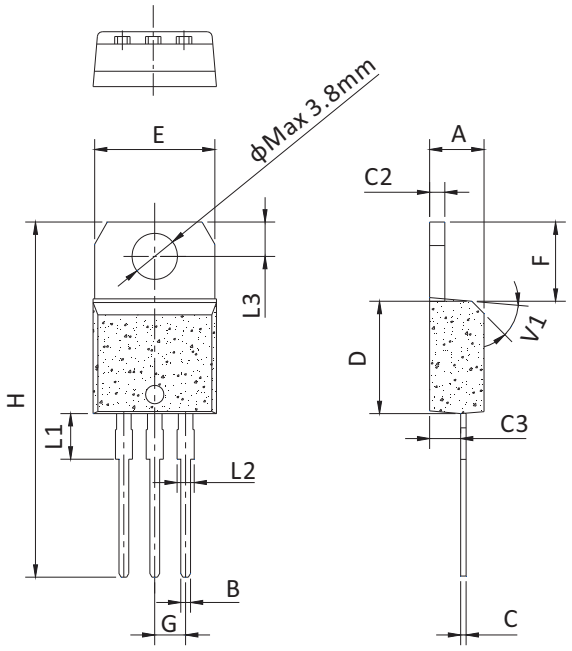
$I_{T(RMS)}$
10C: 10A

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

Product Line
SC: Semiware SCRs

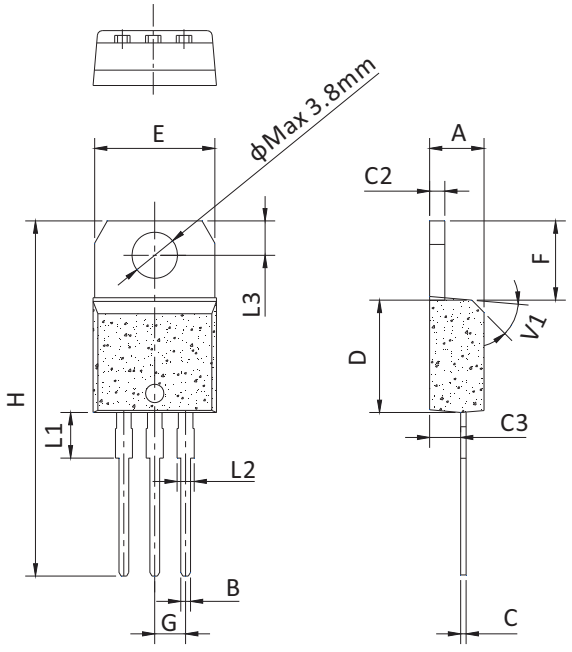
PACKAGE MECHANICAL DATA

TO-220A (Insulated)



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°	

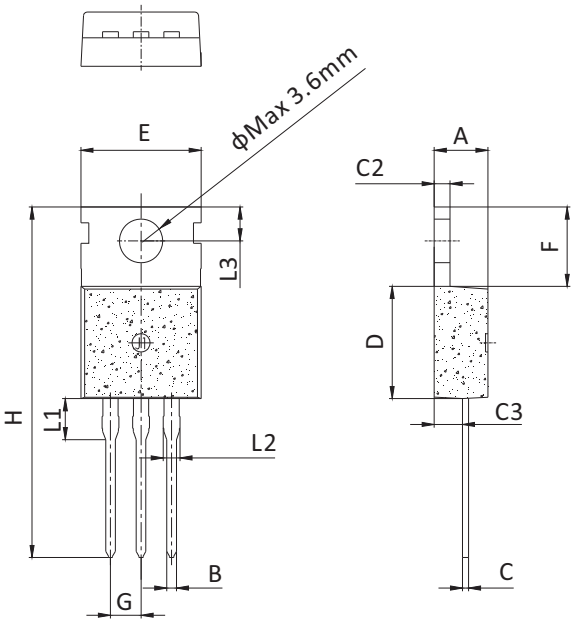
TO-220B (Non-Insulated)



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

TO-220C



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

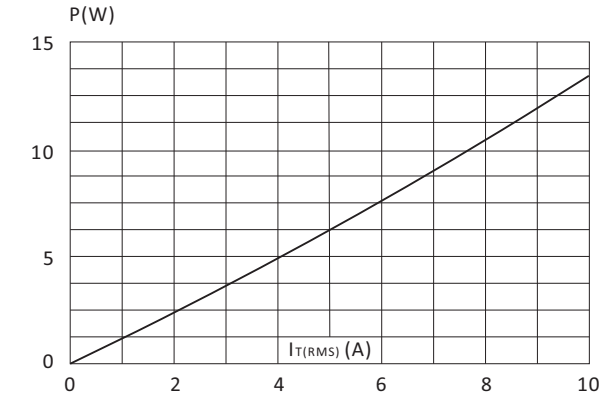


FIG.2 RMS On-state Current Versus Case Temperature

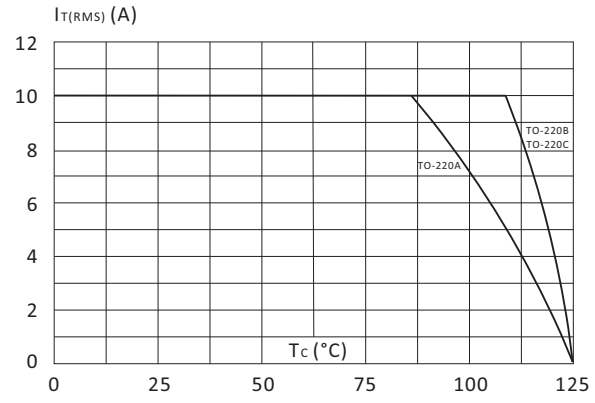


FIG.3 Surge Peak On-state Current Versus Number Of Cycles

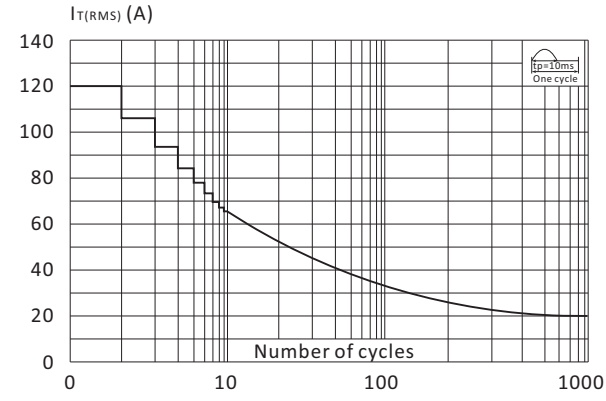


FIG.4 On-state Characteristics (Maximum Values)

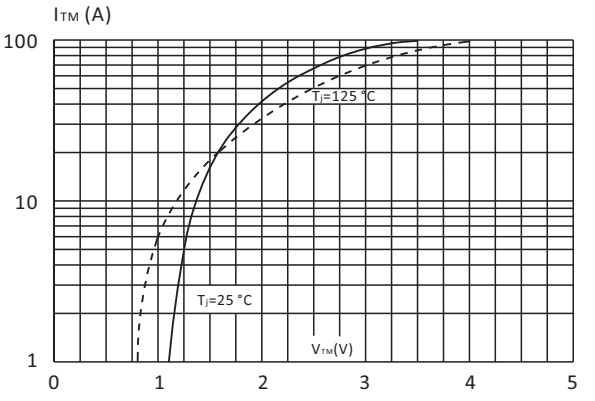


FIG.5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t

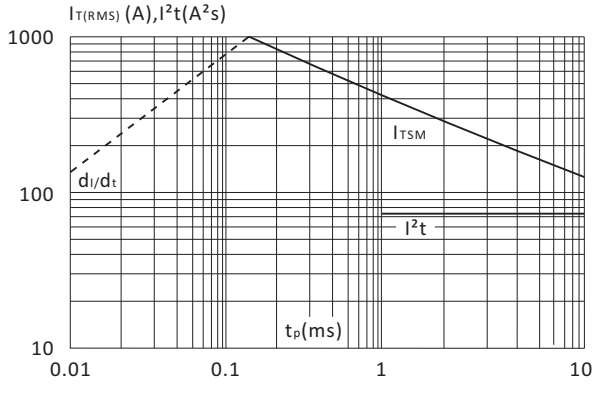
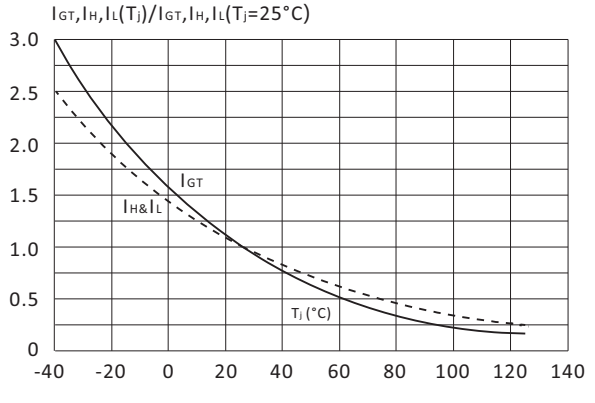


FIG.6 Relative variations of gate trigger current,holding current and latching current versus junction temperature



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