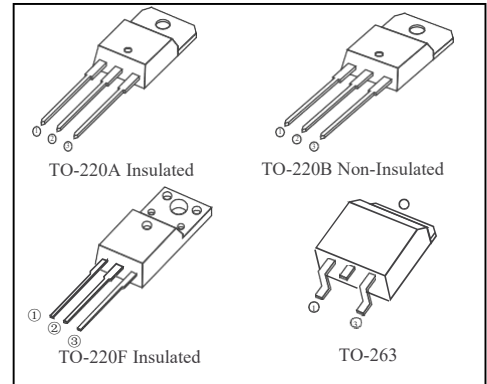


Silicon Controlled Rectifier

Features

- Sensitive Gate Trigger Current
- Blocking Voltage to 600 V
- Glass Passivated Surface for Reliability and Uniformity
- RoHS Compliant
- High dV/dt Rate
- $I_T(RMS)$ to 12A Of SCR



Mechanical Characteristics

- TO-220A、TO-220B、TO220F、TO-263 package
- Matte tin lead – free plated
- Marking: Marking Code
- RoHS Compliant

Applications

- Contactless AC switches、light dimmer
- Electric flasher unit、hair drier
- Control of household equipment

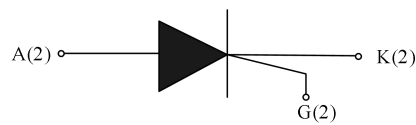
Absolute Maximum Rating ($T_c=25^\circ\text{C}$ Unless otherwise specified)

Parameter	Symbol	Value	Units
Storage junction temperature range	T_{stg}	-40~150	$^\circ\text{C}$
Operating junction temperature range	T_j	~125	$^\circ\text{C}$
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	600	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	650	V
RMS on-state current ($T_c=80^\circ\text{C}$)	$I_{T(RMS)}$	20	A
Non repetitive surge peak on-state current (full cycle,	I_{TSM}	100	A
I_2t value for fusing ($t_p=10\text{ms}$)	I^2t	50	A^2s
Critical rate of rise of on-state current ($I_G=2\times I_{GT}$)	dI/dt	100	$\text{A}/\mu\text{s}$
Peak gate current	I_{GM}	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	5	W
Thermal Resistance(between Junction and Case)	$R_{\theta(J-C)}$	2.4 (Typ.)	K/W

Note1:RMS on-state current ,per Fig2, Fig3.

Note2: I_{GT} Per Fig4.

Pin Configuration



Electrical Characteristics (Tc=25℃ Unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
IGT	VD =12V RL =33Ω	I-II-III	MAX.	50	mA
VGT		I-II-III	MAX.	1.0	V
VGD	VD =VDRM Tj =150℃ RL =3.3KΩ	I-II-III	MIN.	0.5	V
IL	IG =1.2IGT	I-III	MAX.	60	mA
		II		90	
IH	IT =500mA		MAX.	60	mA
dV/dt	VD=540V Gate Open Tj =150℃		MIN.	1000	V/μs
(dI/dt)c	(dV/dt)c =20V/μs, Tj=150℃		MIN.	30	A/ms
ton	IG=40mA IA=200mA IR=20mA Tj=25℃		TYP.	7	μs

Static Characteristics

Symbol	Parameter		Value(MAX.)	Unit
VTM	ITM =28A tp=380μs	Tj=25℃	1.6	V
VTO	Threshold voltage	Tj=150℃	0.71	V
RD	Dynamic resistance	Tj=150℃	22	mΩ
IDRM	VD =VDRM VR =VRRM	Tj=25℃	0.5	μA
IRRM		Tj=150℃	2.5	mA

Thermal Resistances

Symbol	Parameter	Value	Unit
Rth(j-c)	Junction to case (AC)	2.0	℃/W
Rth(j-a)	Junction to ambient (AC)	60	℃/W

Note: The above typical parameters or typical characteristics are only indicative and do not make specific guarantees. If detailed values are required, additional communication and provision are required.

Typical Characteristics

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

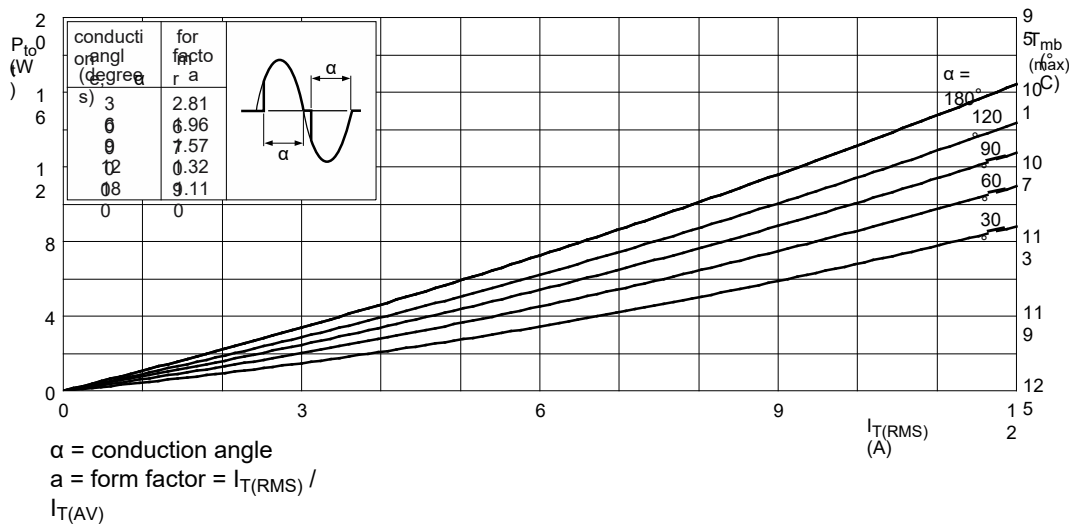


FIG.2 RMS on-state current versus case temperature

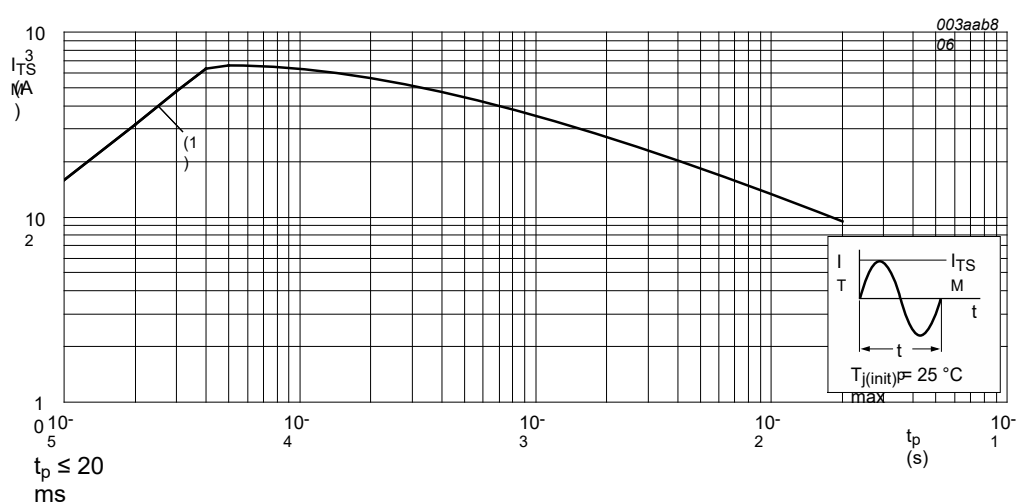


FIG.3 Surge peak on-state current versus number of cycles

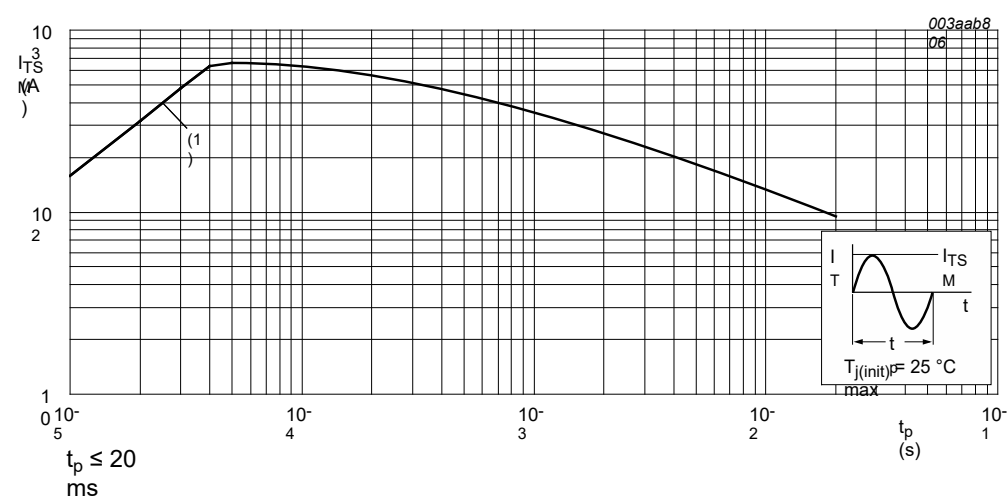
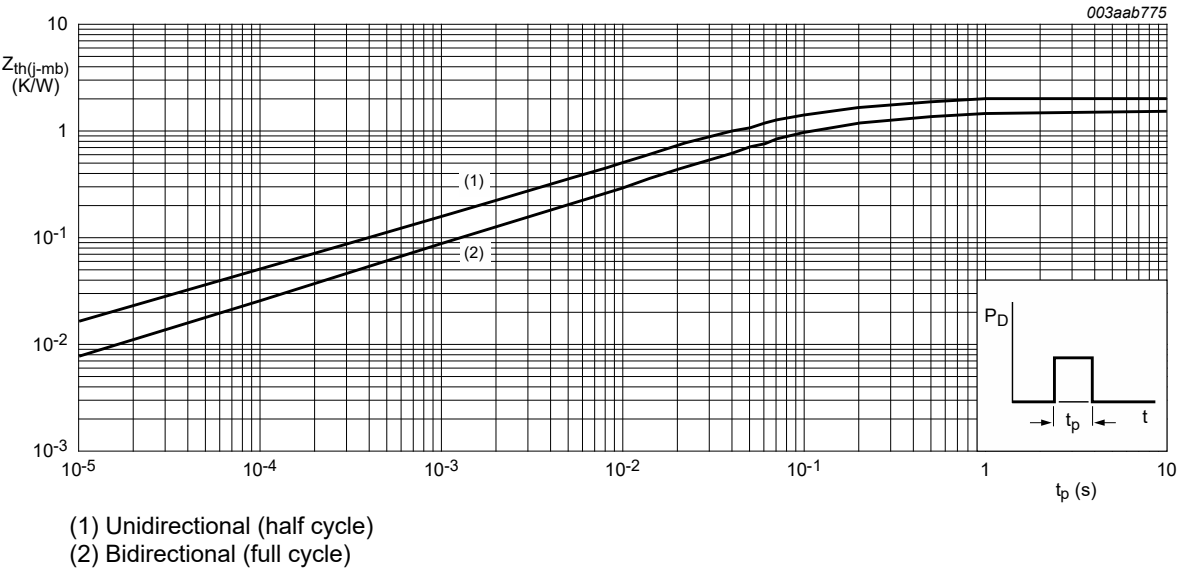
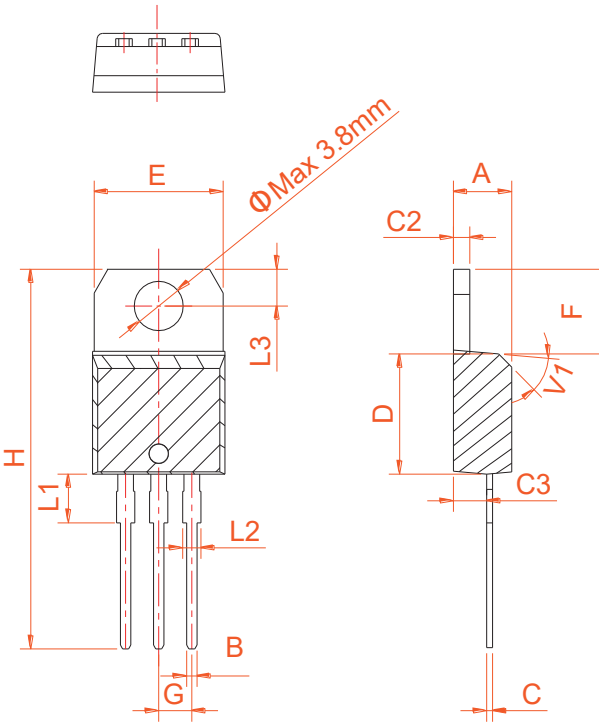


FIG.4
On-state characteristics



Package Mechanical Data

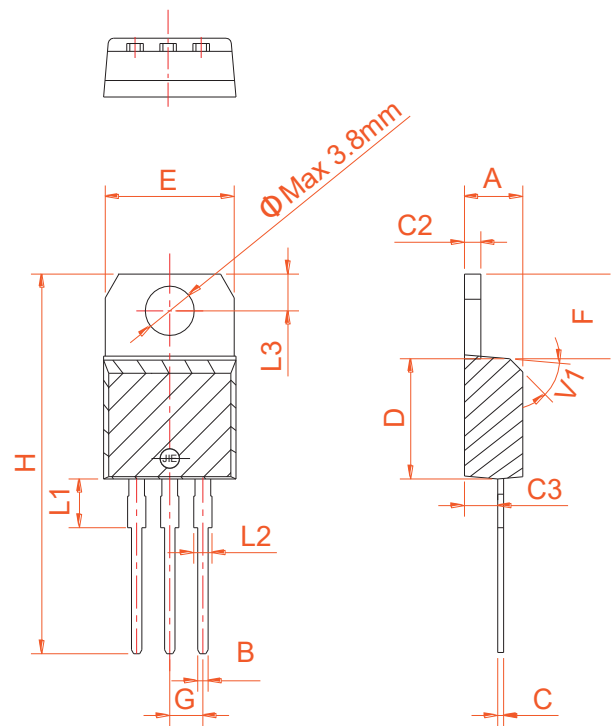


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
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°	

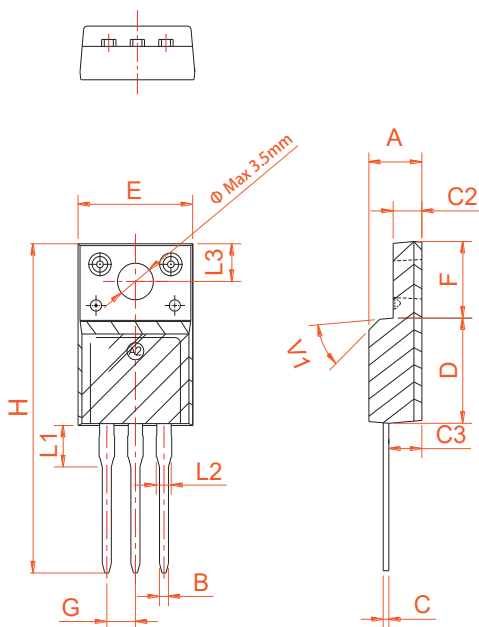
TO-220A Ins

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	9.60		10.4	0.378		0.409
F	6.20		6.60	0.244		0.260
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°	



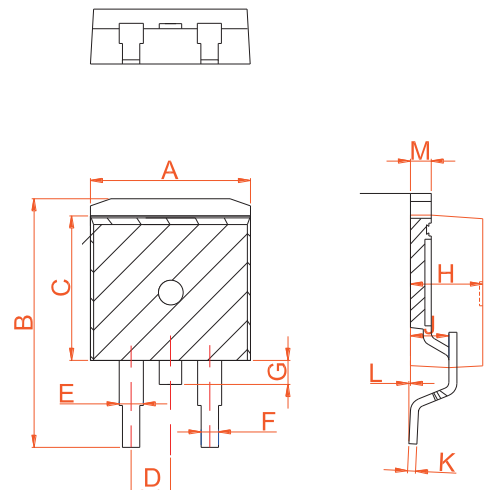
TO-220B Non-Ins



TO-220F Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.45		2.75	0.096		0.108
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.40		6.80	0.252		0.268
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.63			0.143	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
V1		45°			45°	

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90		10.20	0.390		0.402
B	14.70		15.80	0.579		0.622
C	9.4		9.6	0.37		0.378
D		2.54			0.100	
E	1.20		1.40	0.047		0.055
F	0.75		0.85	0.029		0.033
G			1.75			0.069
H	4.40		4.70	0.173		0.185
J	2.30		2.70	0.091		0.106
K	0.38		0.55	0.015		0.022
L	0	0.10	0.25	0	0.004	0.010
M	1.25		1.35	0.049		0.053



TO-263


Package Information

Package Type	Description	Quantity (pcs)
TO-220A	Tube	50
TO-220B	Tube	50
TO220F	Tube	50
TO-263	Reel	800

Contact Information

TANI website: <http://www.tanisemi.com> Email: tani@tanisemi.com

For additional information, please contact your local Sales Representative.

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