

DESCRIPTION

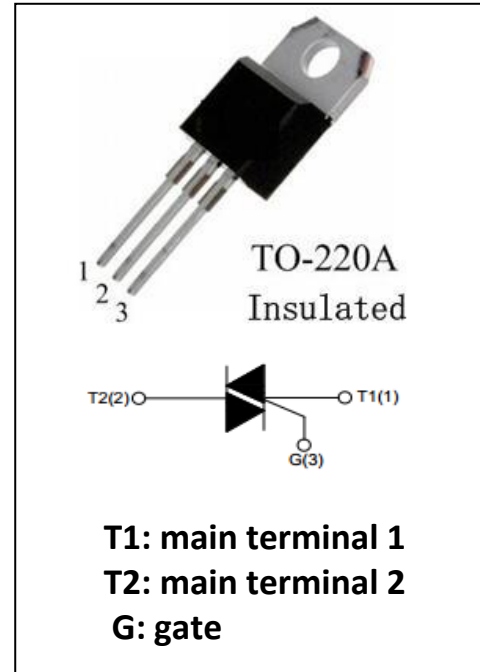
Glass passivated high commutation 3-quadrant triac. With high ability to withstand the shock loading of large current, AT24A triacs provide high dv/dt rate with strong strong resistance to electromagnetic interface. Package TO-220A are RoHS compliant.

APPLICATIONS

Heating controller, Lights controller, Rice cooker, Static relays, Motor speed controllers.

REFERENCE DATA

Symbol	Value	Unit
$I_{T(RMS)}$	24	A
V_{DRM} / V_{RRM}	800	V
V_{TM}	1.55	V



ABSOLUTE MAXIMUM RATINGS ($T_{CASE}=25^{\circ}C$)

Symbol	Parameter	Conditions	Value	Unit
V_{DRM} / V_{RRM}	Peak repetitive off-state voltage	$T_j=25^{\circ}C$	800	V
$I_{T(RMS)}$	RMS on-state current	full sine wave, $T_c=80^{\circ}C$, Fig.1,2	24	A
I_{TSM}	Non-repetitive surge peak on-state current	full cycle sine wave, $T_j(\text{init})=25^{\circ}C$, $t_p=20\text{ms}$; Fig.3,5	240	A
I^2t	I^2t value for fusing	sine wave pulse, $t_p=10\text{ms}$	288	A^2s
dI_T/dt	Critical rate of rise of on-state current	$I_G=2 \cdot I_{GT}$, $t_r \leq 10\text{ns}$, $F = 120\text{Hz}$, $T_j=125^{\circ}C$	50	$A/\mu s$
I_{GM}	Peak gate current	$t_p=20\mu s$, $T_j=125^{\circ}C$	4	A
$P_{G(AV)}$	Average gate power dissipation	$T_j=125^{\circ}C$	1	W
T_{STG}	Storage junction temperature range		-40—+150	$^{\circ}C$
T_j	Operating junction temperature range		-40—+125	$^{\circ}C$

ELECTRICAL CHARACTERISTICS

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	$V_D=12V, R_L=100\Omega$, $T_j=25^\circ C$, Fig. 6	I - II - III	MAX	50	mA
V_{GT}		I - II - III	MAX	1.5	V
V_{GD}	$V_D=V_{DRM}$, $T_j=125^\circ C$		MIN	0.2	V
I_H	$I_T=500mA$, Fig. 6		MAX	80	mA
I_L	$I_G=1.2I_{GT}$, Fig. 6	I - III	MAX	80	mA
		II	MAX	100	mA
dV/dt	$V_D=67\%V_{DRM}$, Gate Open $T_j=125^\circ C$		MIN	500	V/ μs
V_{TM}	$I_{TM}=50A$, $t_p=380\mu s$, Fig. 4		MAX	1.55	V
I_{DRM} / I_{RRM}	$V_D=V_{DRM}/V_{RRM}$, $T_j=25^\circ C$		MAX	5	μA
	$V_D=V_{DRM}/V_{RRM}$, $T_j=125^\circ C$		MAX	1	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	Junction to Case(AC)	TO-220A(Ins)	2.05	$^\circ C/W$

ORDERING INFORMATION

ANBON Triac $I_{T(RMS)}=24A$ TO-220A Ins		A T 24 A -800
		800: $\geq 800V$

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

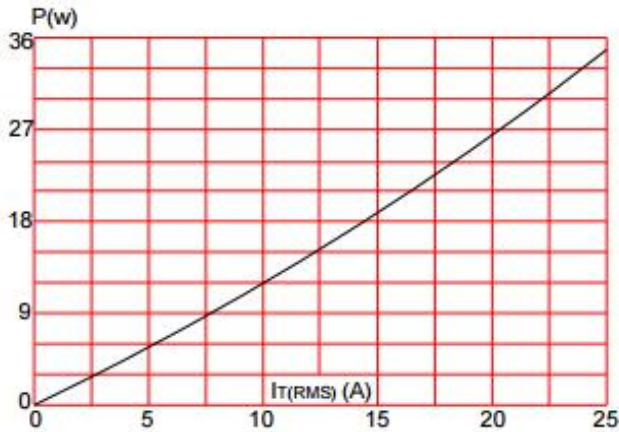


FIG.2: RMS on-state current versus case temperature

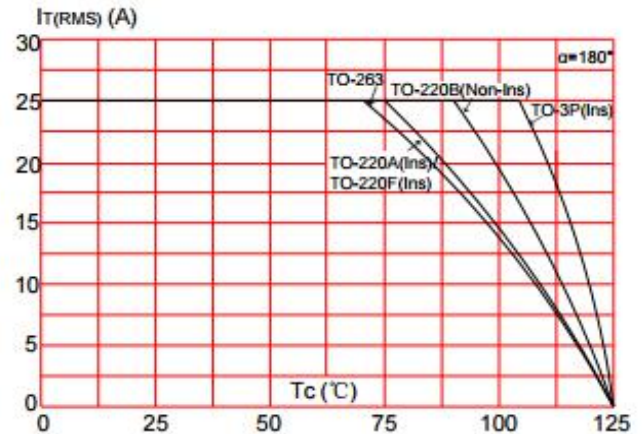


FIG.3: Surge peak on-state current versus number of cycles

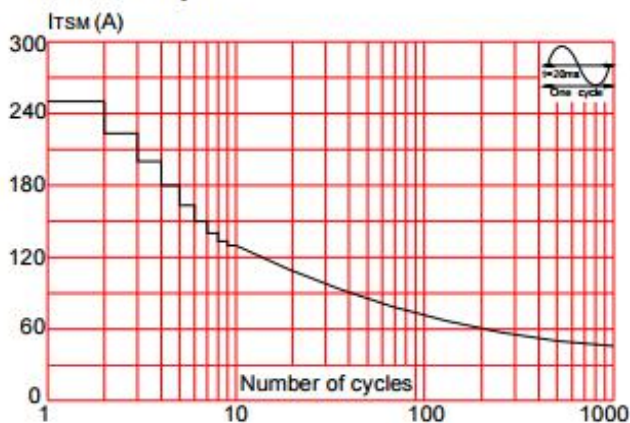


FIG.4: On-state characteristics (maximum values)

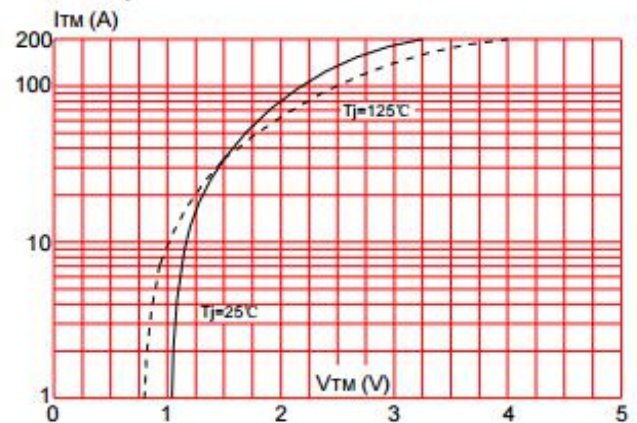


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of $I^2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

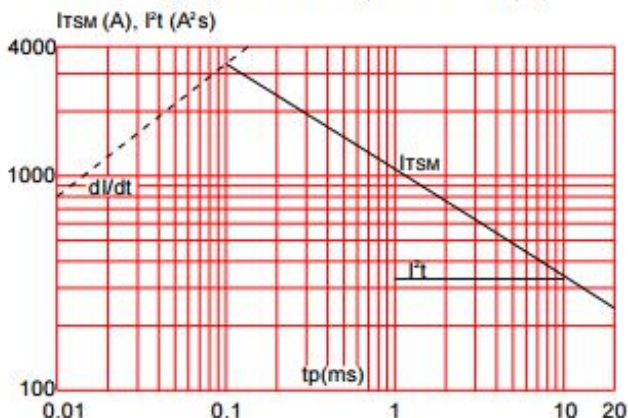
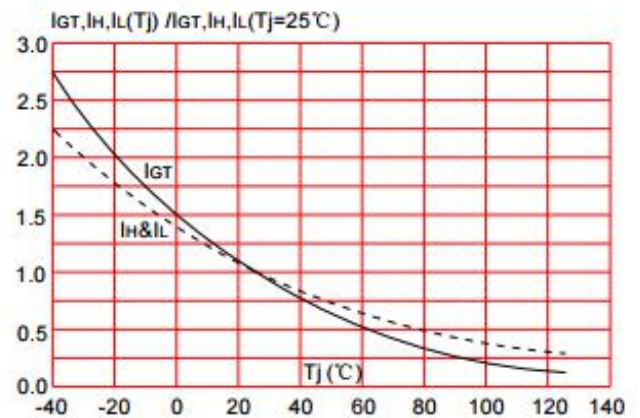
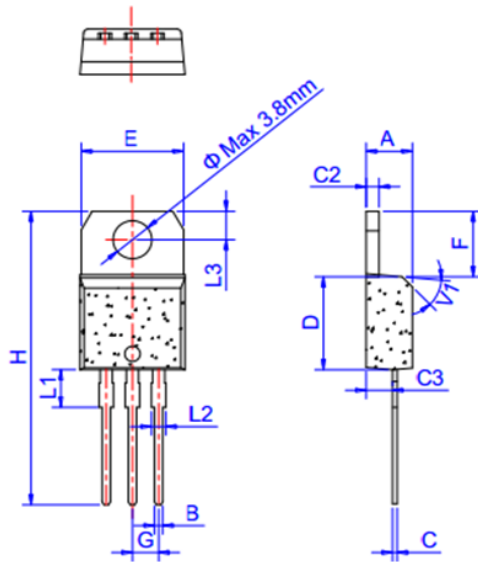


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



PACKAGE MECHANICAL DATA

TO-220A(Ins)



TO-220A

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	6.20		6.95	0.244		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°	