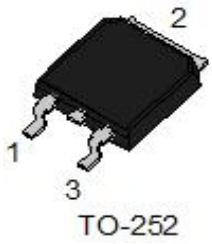
X0405

4A Triac

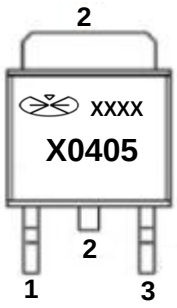
MAIN FEATURES

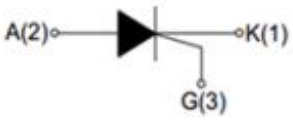
Symbol	value	unit
$I_{T(AV)}$	4	A
V_{DRM}/V_{RRM}	600	V
I_{TSM}	40	A

Package



TO-252





Package Marking and Ordering Information

Product ID	PACK	Qty（pcs）
X0405	TO-252	2500

ABSOLUTE MAXIMUM RATINGS(Ta=25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{DRM}/V_{RRM}	Repetitive peak off-state voltage		600	V
$I_{T(RMS)}$	RMS on-state current(full sine wave)		4	A
I_{TSM}	Non repetitive surge peak on-state current(half sine wave)	Tc=90℃	40	A
I_{GM}	Peak gate current		4	A
I^2t	I^2t for fusing	tp=10ms	16	A^2S
$P_{G(AV)}$	Average gate Power Dissipation	Tj=125℃	0.5	W
Di/dt	Repetitive rate of rise of on-state current after triggering		50	A/μs
Tj	Junction Temperature		-40 to 125	℃
Tstg	Storage Temperature		-40 to 150	℃

ELECTEICAL CHARACTERISTICS(Ta=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Gate trigger current	IGT	V_D=12V;RL=100Ω			200	μA
Gate trigger voltage	V_{GT}	V_D=12V;RL=100Ω			1.5	V
Non-triggering gate voltage	V_{GD}	Tj=125℃	0.2			V
Holding current	I_H	IT=0.5A			0.2	mA
Critical rise rate of off-state voltage	dV/dt	V_D=2/3V_{DRM};Tj=125℃	5			V/μs
Peak on-state voltage	V_{TM}	I_{TM}=8A			1.80	V
Peak forward reverse blocking current	I_{DRM}	V_D=V_{DRM}/V_{RRM}			5	μA
	I_{RRM}	V_D=V_{DRM}/V_{RRM};Tj=20-125℃			1	mA

Thermal resistance

Parameter	Symbol	Test conditions	Value	Unit
Junction to case(AC)	Rth(j-c)		1.25	**℃/W**

I_{GT} Range

IGT	10-30	30-60	60-90

Electrical Characteristic Curve

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

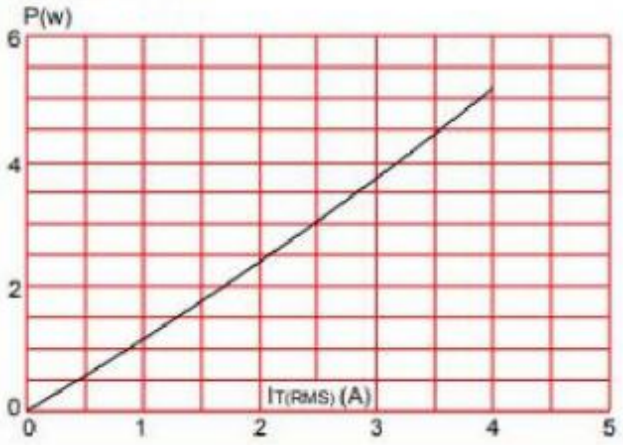


FIG.2: RMS on-state current versus case temperature

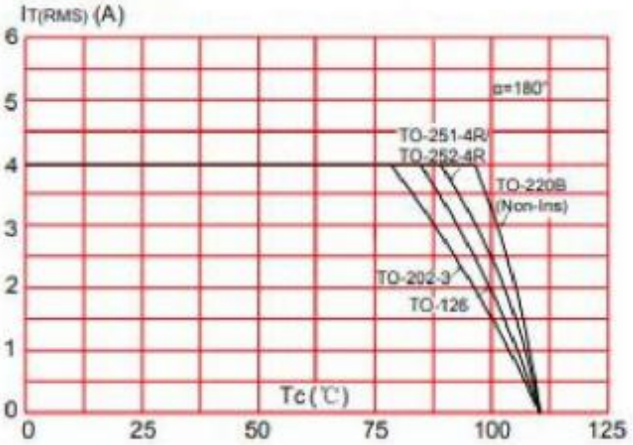


FIG.3: Surge peak on-state current versus number of cycles

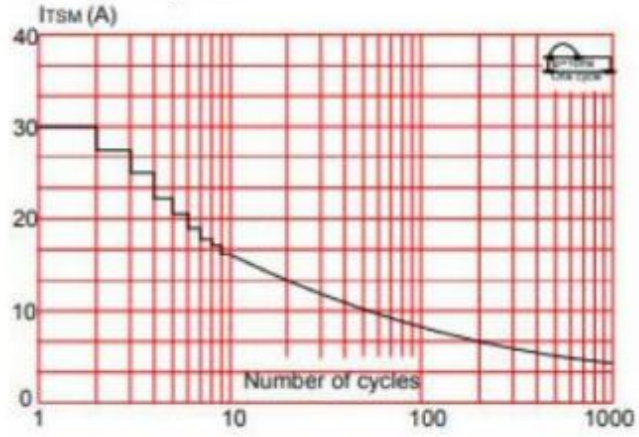


FIG.4: On-state characteristics (maximum values)

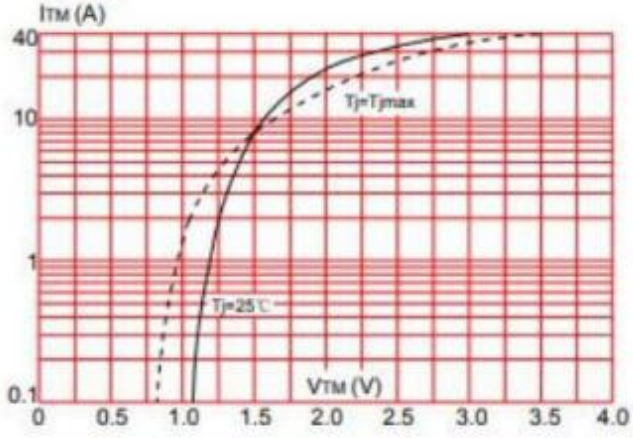


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms, and corresponging value of I^2t (dI/dt < 50A/μs)

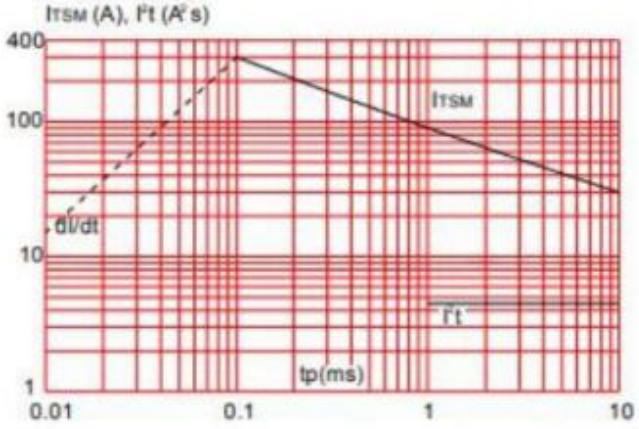
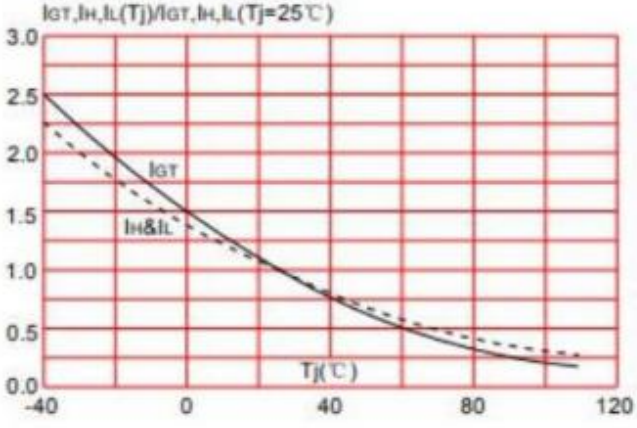
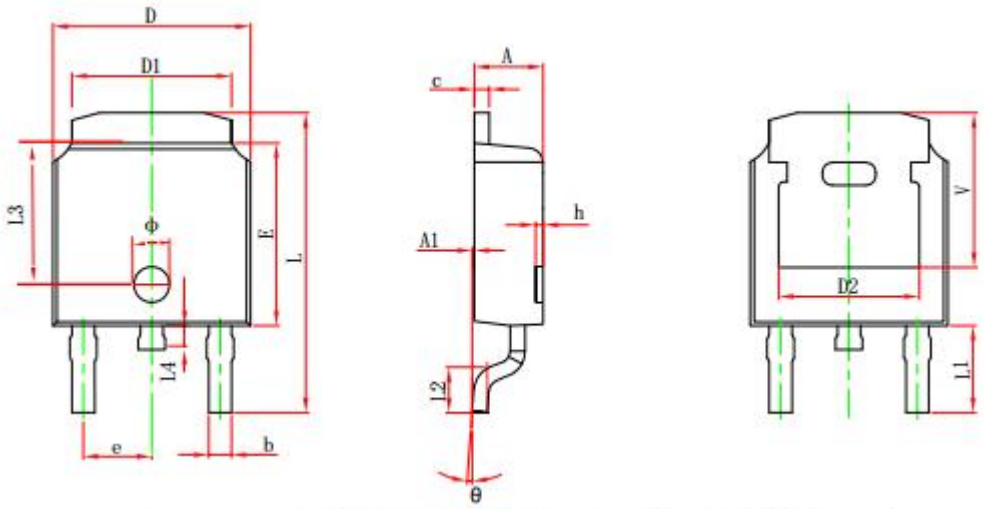


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

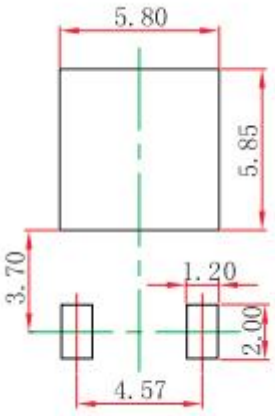


TO-252-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	4.460 REF.		0.1756 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

TO-252-2L Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.