T16 16A TRIACs

FEATURES

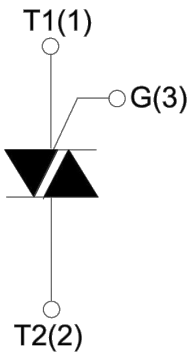
- Glass Passivated Junctions
- High voltage and surge capability
- Low Thermal Resistance and Durability
- Triggering in three quadrants

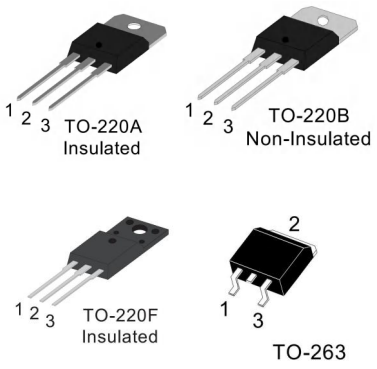
APPLICATIONS

- Static relays
- Heating regulation
- In-duction motor starting circuits
- Phase control operation in light dimmers
- Motor speed controllers

Parameters Summary

VD/VR:600/800/1200V IT(RMS):16A IGT:05 to 50mA





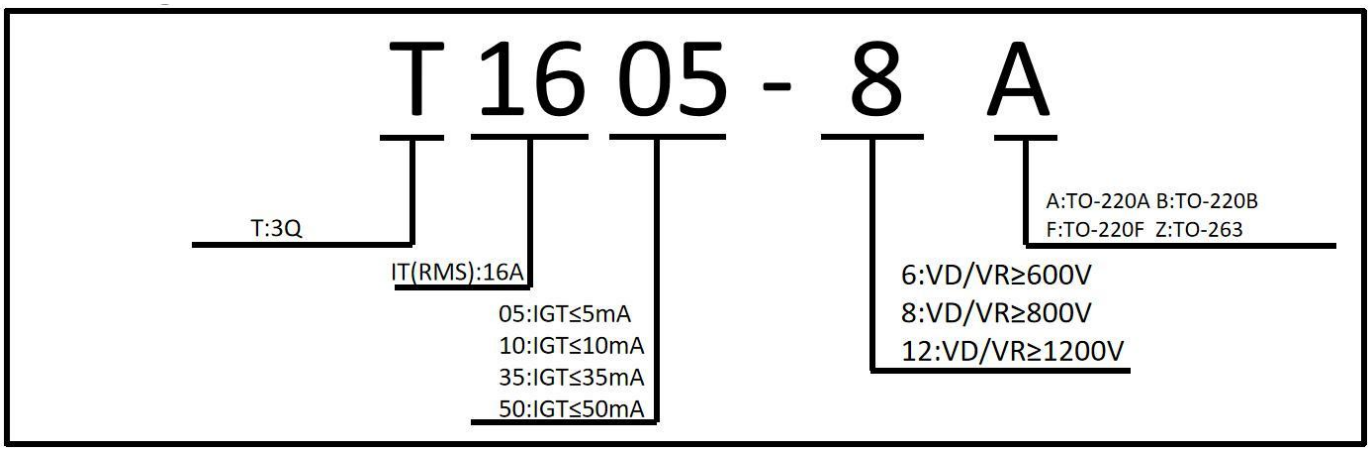
ABSOLUTE MAXIMUM RATINGS				
Parameter		**Symbol**	**Value**	**Unit**
Storage junctiontemperature range		Tstg	-40~150	℃
Operating junction temperature range		Tj	-40~150	℃
Repetitive peak off-state voltage (T =25℃)		V_{DRM}	600/800/1200	V
Repetitive peak reverse voltage (T =25℃)		V_{RRM}	600/800/1200	V
RMS on-state current	TO-220A(TC=86℃)	$I_{T(RMS)}$	16	A
	TO-220B(TC=107℃)			
	TO-220F(TC=90℃)			
	TO-263(TC=115℃)			
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I_{TSM}	160	A
I²t value for fusing (tp=10ms)		I²t	128	A²S
Critical rate of rise of on-state current(I =2×I_{GT})		di/dt	50	A/μS
Peak gate current		I_{GM}	4	A
Peakgate power dissipation		P_{GM}	5	W
Average gate power dissipation		$P_{G(AV)}$	1	W

Thermal Resistances				
Symbol	**Parameter**		**Value**	**Unit**
Rth(j-c)	Junction to case (DC)	TO-220A	2. 1	℃/W
		TO-220B	1. 2	
		TO-220F	2. 3	
		TO-263	0. 85	

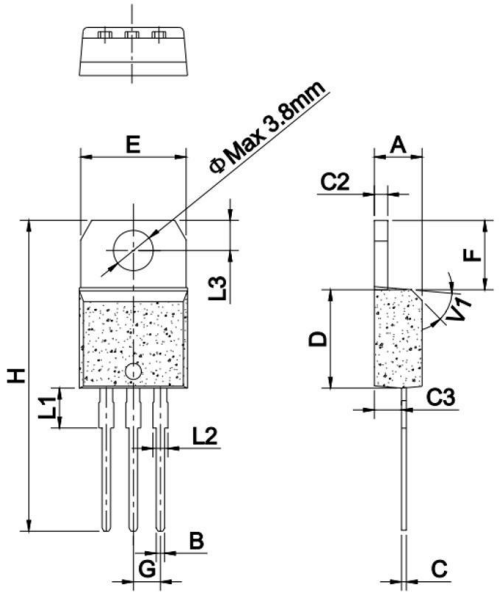
ELECTRICAL CHARACTERISTICS (T=25℃unless otherwise specified)								
Symbol	Test Condition	Quadrant		Value				Unit
				5	10	35	50	
I_{GT}	V_D=12V, I_T=0. 1A, Tj=25 ℃	I II III	MAX.	5	10	35	50	mA
V_{GT}		I II III	MAX.	1. 3				V
V_{GD}	V_D=V_{DRM}Tj=125℃	I II III	MIN.	0. 2				V
I_L	I_G=1.2I_{GT}	I-III	MAX.	20	30	50	80	mA
		II		30	40	60	100	
I_H	IT=100mA		MAX.	50	20	40	60	mA
dV/dt	VD=2/3VDRMGate Open Tj=125℃		MIN.	100	200	500	1000	V/μs

STATIC CHARACTERISTICS				
Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM}=22.5A tp=380μs	Tj =25℃	1.55	V
I_{DRM}	V_D=$V_{DRM}$$V_R$=$V_{RRM}$	Tj =25℃	5	μA
I_{RRM}		Tj =125℃	2	mA

Ordering Information Scheme

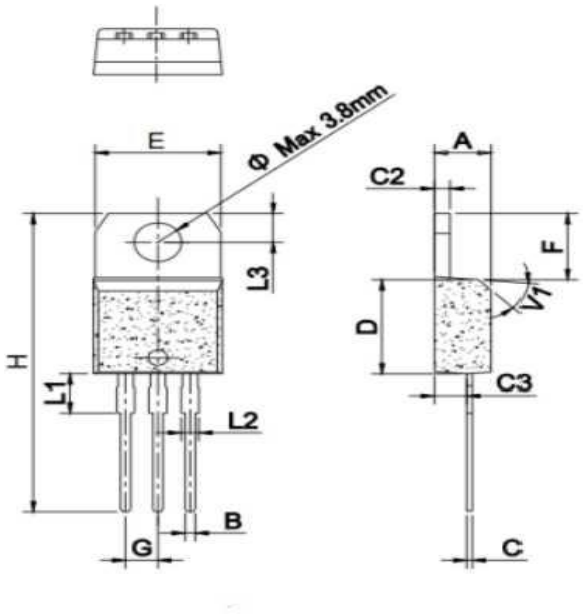


TO-220A Package Mechanical Data



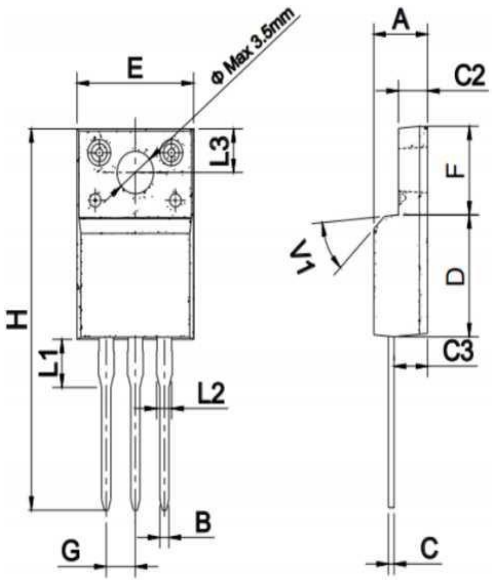
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
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-220B Package Mechanical Data



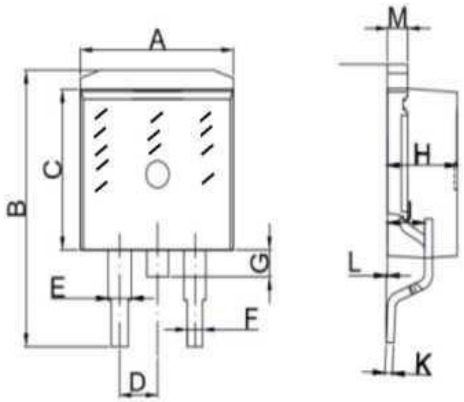
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.10		4.30	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
D	1.21		1.32	0.048		0.052
E	2.40		2.72	0.094		0.107
F	8.60		9.70	0.339		0.382
G	9.60		10.4	0.378		0.409
H	6.25		7.05	0.244		0.260
J		2.54			0.1	
K	28.0		29.8	1.102		1.173
N					0.148	
P	1.14		1.70	0.045		0.067
V	2.65		2.95	0.104		0.116

TO-220F Package Mechanical Data



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	2.50		3.10	0.096		0.108
C3	2.40		2.80	0.102		0.118
D	8.60		8.90	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.70		7.50	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°	

TO-263 Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.90		10.5	0.390		0.402
B	14.70		15.80	0.579		0.622
C	8.8		9.2	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		0.25	0	0.004	0.010
M	1.25		1.35	0.049		0.053

FIG.1 Maximum power dissipation versus on-state current

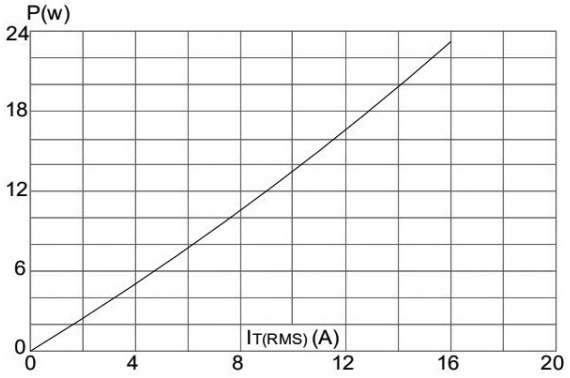


FIG.2: on-state current versus case temperature

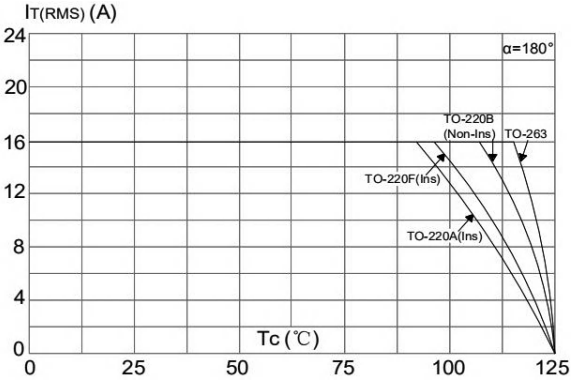


FIG.3: Surge peak on-state current versus number of cycles

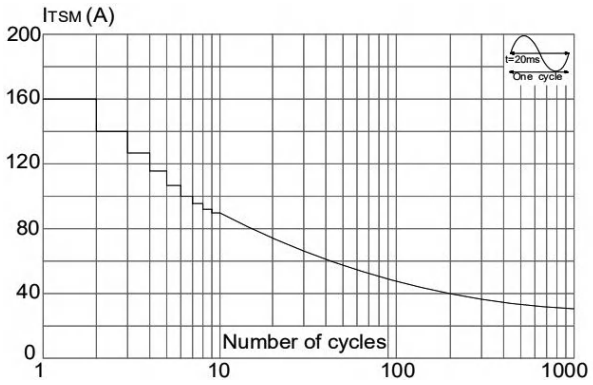


FIG.4: On-state characteristics (maximum values)

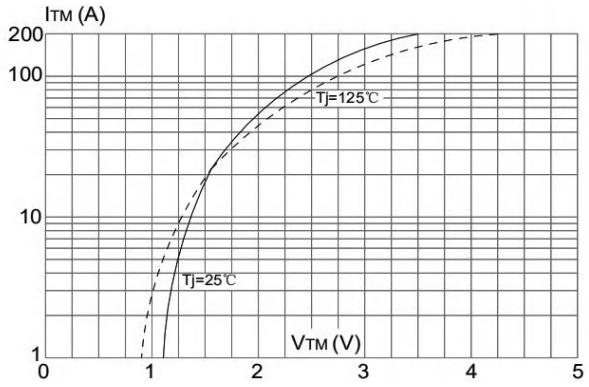


FIG.5: Non-repetitive surge peak on-state currentfor a sinusoidal pulse with width tp<10ms, and corresponding value of I2 t (dI/dt < 50A/μs)

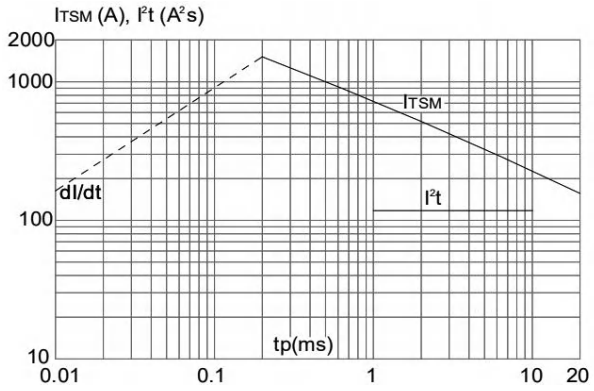
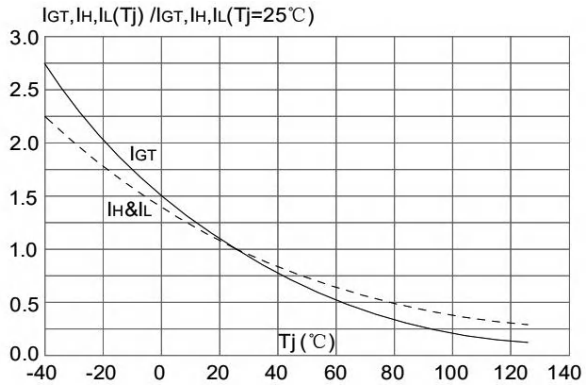


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature



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