T310H 3A TRIACs

Rev.2.0

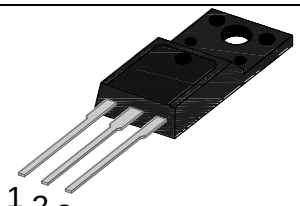
DESCRIPTION:

T310H provide high dv/dt rate with strong resistance to electromagnetic interface. They are especially recommended for use on home appliances such as washing machines, and for use on industrial control systems like electromagnetic valves.

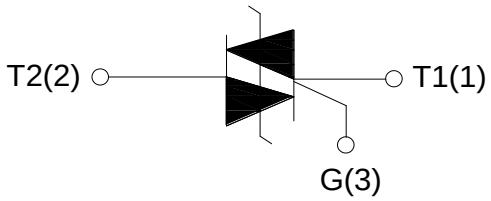
T310H8F provides insulation voltage rated at 2000V RMS from all three terminals to external heatsink complying with UL standards (File ref: E252906).

MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	3	A
I_{GT1-3}	10	mA
V_{DRM}/V_{RRM}	800	V



TO-220F
Insulated



ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junction temperature range		T_{stg}	-40-150	℃
Operating junction temperature range		T_j	-40-125	℃
Repetitive peak off-state voltage(T_j=25℃)		V_{DRM}	800	V
Repetitive peak reverse voltage(T_j=25℃)		V_{RRM}	800	V
Non repetitive surge peak Off-state voltage		V_{DSM}	V_{DRM} +100	V
Non repetitive peak reverse voltage		V_{RSM}	V_{RRM} +100	V
RMS on-state current	TO-220F(Ins) (T_C=100℃)	$I_{T(RMS)}$	3	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I_{TSM}	25	A
I^2t value for fusing (tp=10ms)		I^2t	3.1	A^2s
Rate of rise of on-state current (I_G =2×I_{GT})		dI/dt	50	A/μs

Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	5	W

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	V_D=12V R_L=33Ω	Ⅰ-Ⅱ-Ⅲ	MAX	10	mA
V_{GT}		Ⅰ-Ⅱ-Ⅲ	MAX	1.3	V
V_{GD}	V_D=V_{DRM} T_j=125℃ R_L=3.3KΩ	Ⅰ-Ⅱ-Ⅲ	MIN	0.2	V
I_L	I_G=1.2I_{GT}	Ⅰ-Ⅲ	MAX	20	mA
		Ⅱ		40	
I_H	I_T=100mA		MAX	15	mA
dV/dt	V_D=2/3V_{DRM}Gate Open T_j=125℃		MIN	200	V/μs

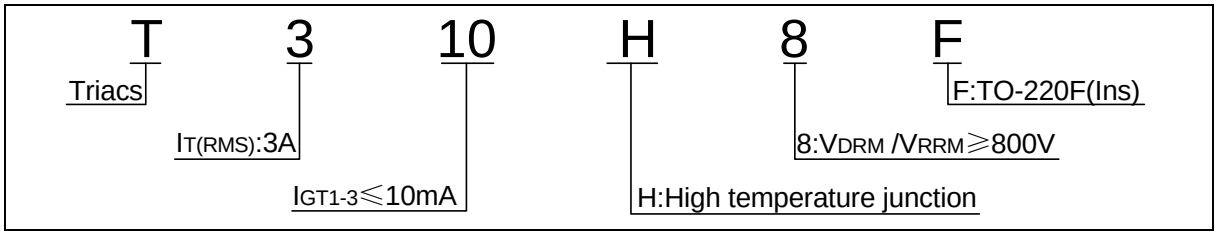
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	I_{TM}=4.5A tp=380μs	T_j=25℃	1.5	V
I_{DRM}	V_D=$V_{DRM}$$V_R$=$V_{RRM}$	T_j=25℃	5	μA
I_{RRM}		T_j=125℃	1	mA

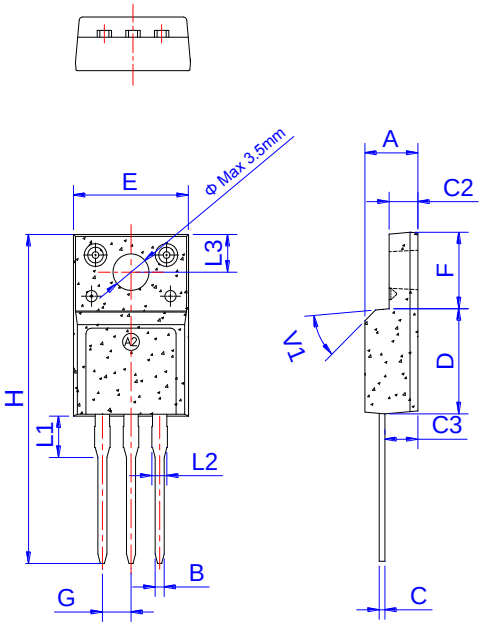
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-220F(Ins)	7.5	℃/W

ORDERING INFORMATION



PACKAGE MECHANICAL DATA



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°	

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

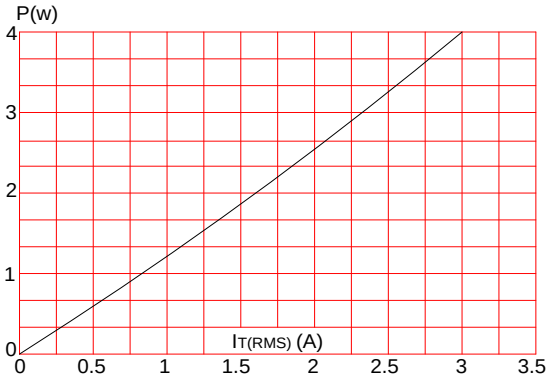


FIG.2: RMS on-state current versus case temperature

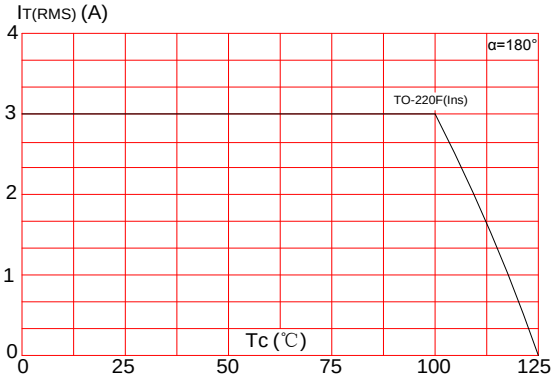


FIG.3: Surge peak on-state current versus number of cycles

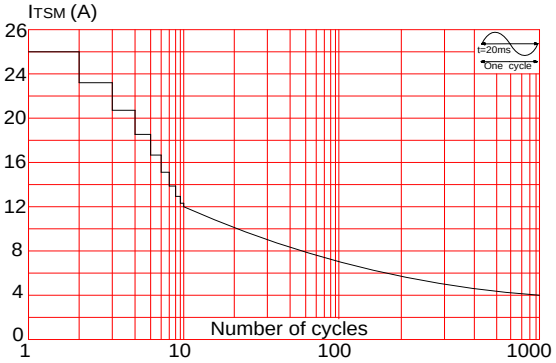


FIG.4: On-state characteristics (maximum values)

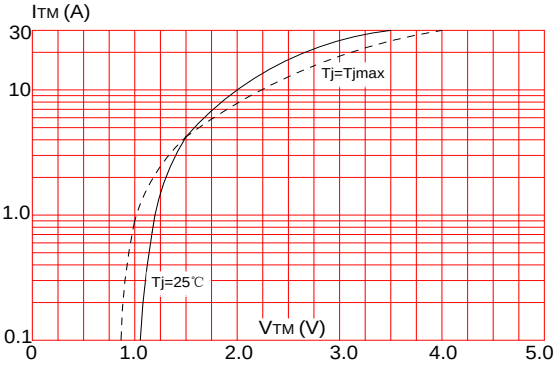


FIG.5: Relative variations of gate trigger current versus junction temperature

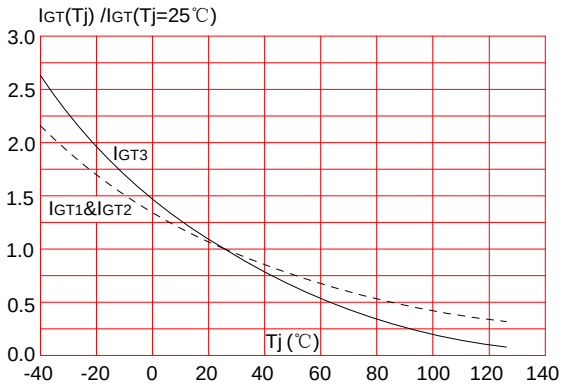


FIG.6: Relative variations of holding current, latching curretn versus junction temperature