

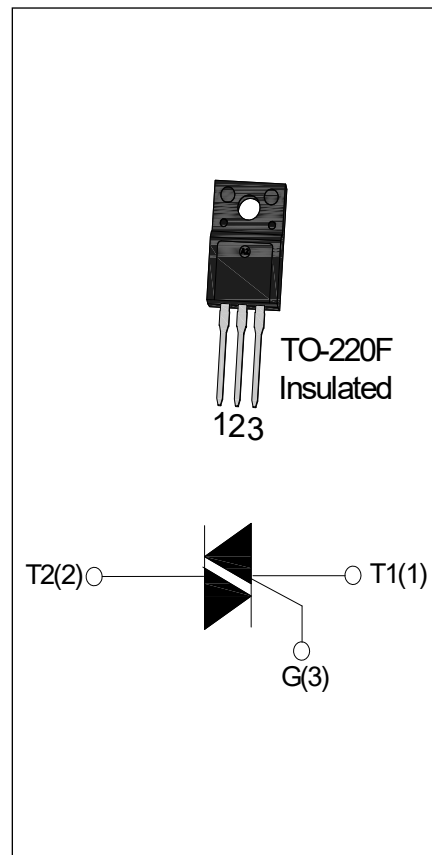


### DESCRIPTION:

With high ability to withstand the shock loading of large current, T835H-8F triac of high junction temperature provide high dv/dt rate with strong resistance to electromagnetic interference. especially recommended for use on motor control of laundry machine. From all three terminals to external heatsink, T835H-8F provides a rated insulation voltage of 2000  $V_{RMS}$ , complying with UL standards (File ref: E252906). Package TO-220F is RoHS compliant. (2011/65/EU)

### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	8	A
$V_{DRM}/V_{RRM}$	800	V
$T_{jmax}$	150	°C



### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit	
Storage junction temperature range	$T_{stg}$	-40 - 150	°C	
Operating junction temperature range	$T_j$	-40 - 150	°C	
Repetitive peak off-state voltage ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	800	V	
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	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) ( $T_C=112^\circ\text{C}$ )	$I_{T(RMS)}$	8	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	80	A	
$I^2t$ value for fusing ( $t_p=10\text{ms}$ )	$I^2t$	32	$A^2s$	

Critical rate of rise of on-state current ( $I_G = 2 \times I_{GT}$ )	dI/dt	50	A/ $\mu$ s
Peak gate current	$I_{GM}$	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	$P_{GM}$	5	W
Peak pulse voltage ( $T_j = 25^\circ\text{C}$ ; non-repetitive, off-state; FIG.7)	Vpp	4	kV

**ELECTRICAL CHARACTERISTICS** ( $T_j = 25^\circ\text{C}$  unless otherwise specified)

Symbol	Test Condition	Quadrant		Value	Unit
$I_{GT}$	$V_D = 12\text{V}$ $R_L = 33\Omega$	I - II - III	MAX	35	mA
$V_{GT}$		I - II - III	MAX	1.5	V
$V_{GD}$	$V_D = V_{DRM}$ $T_j = 150^\circ\text{C}$ $R_L = 3.3\text{K}\Omega$	I - II - III	MIN	0.2	V
$I_L$	$I_G = 1.2I_{GT}$	I - III	MAX	50	mA
		II		60	
$I_H$	$I_T = 100\text{mA}$		MAX	40	mA
dv/dt	$V_D = 2/3V_{DRM}$ Gate Open $T_j = 150^\circ\text{C}$		MIN	1000	V/ $\mu$ s

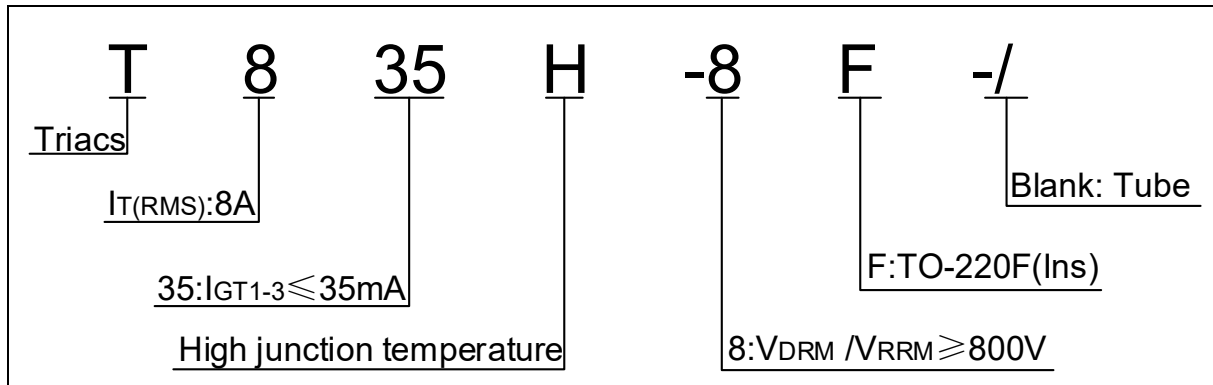
**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM} = 11\text{A}$ $t_p = 380\mu\text{s}$	$T_j = 25^\circ\text{C}$	1.5	V
$V_{TO}$	Threshold voltage	$T_j = 150^\circ\text{C}$	0.95	V
$R_d$	Dynamic resistance	$T_j = 150^\circ\text{C}$	35	m $\Omega$
$I_{DRM}$	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$	10	$\mu\text{A}$
$I_{RRM}$		$T_j = 150^\circ\text{C}$	5	mA

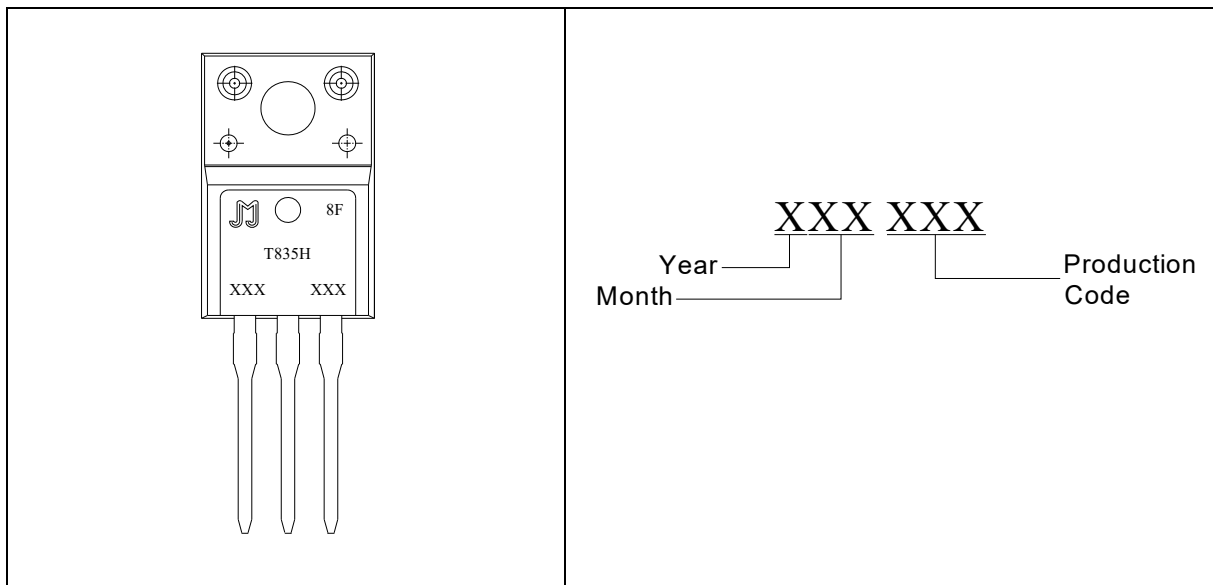
**THERMAL RESISTANCES**

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case(AC)	3.8	$^\circ\text{C}/\text{W}$

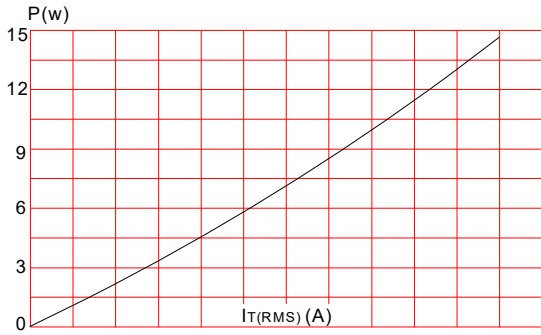
ORDERING INFORMATION



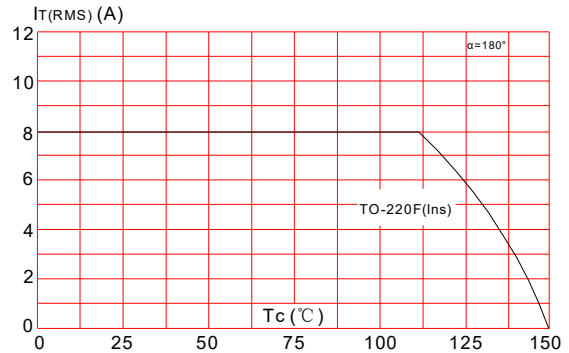
MARKING



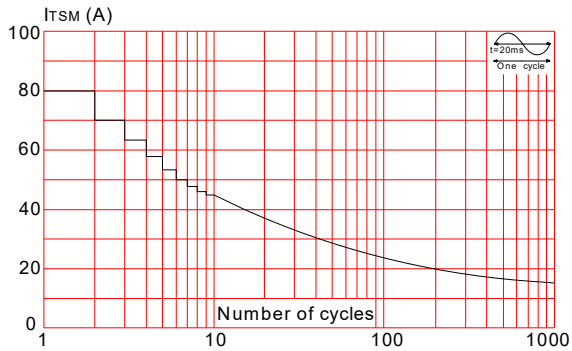
**FIG.1** Maximum power dissipation versus RMS on-state current



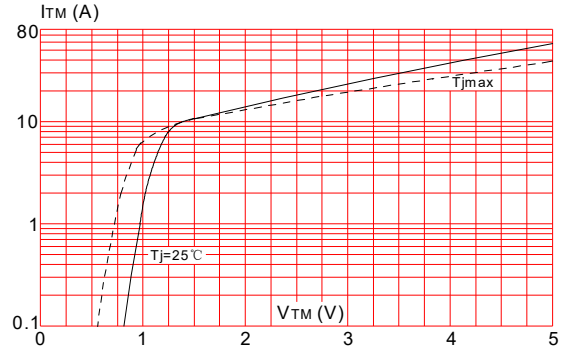
**FIG.2:** RMS on-state current versus case temperature



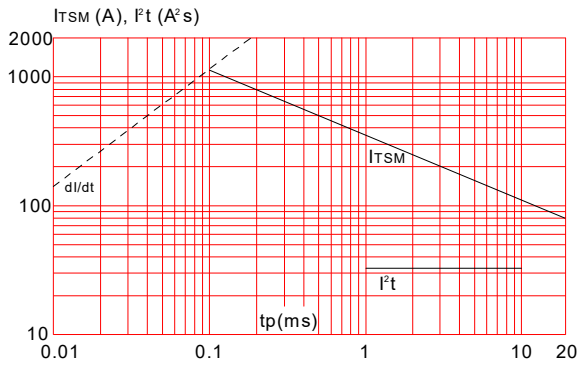
**FIG.3:** Surge peak on-state current versus number of cycles



**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  $I^2t$  ( $dI/dt < 50\text{A}/\mu\text{s}$ )



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

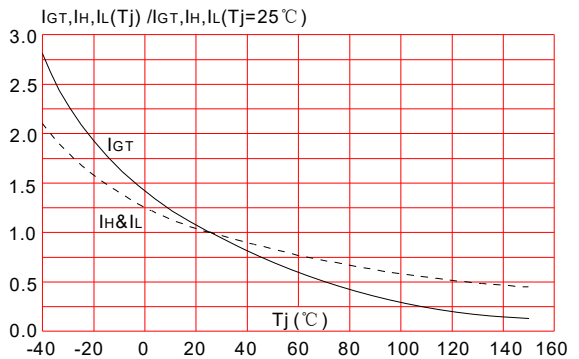
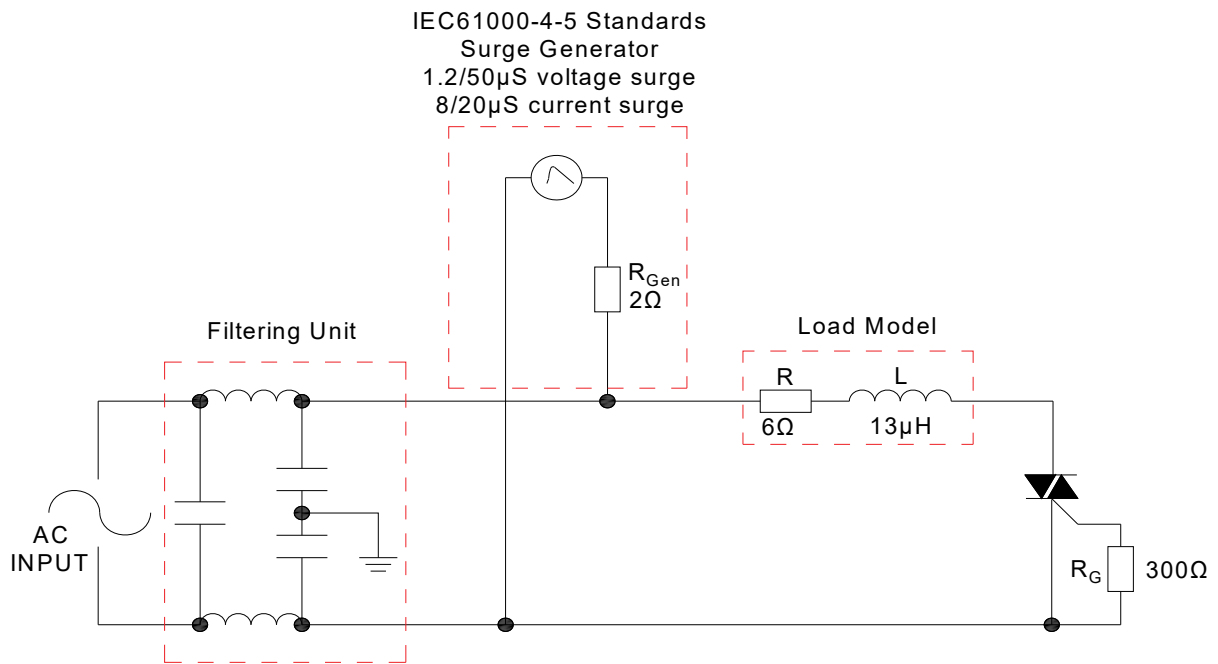


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards



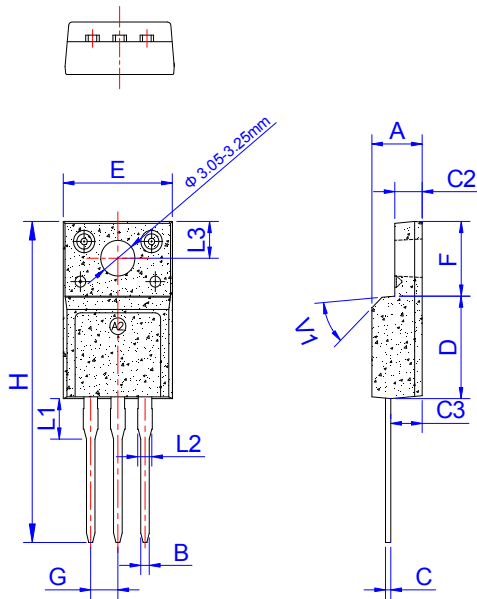
### ORDERING INFORMATION

Order code	Voltage $V_{DRM}/V_{RRM}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
T835H-8F	800	35	TO-220F(Ins)	50	Tube

### Document Revision History

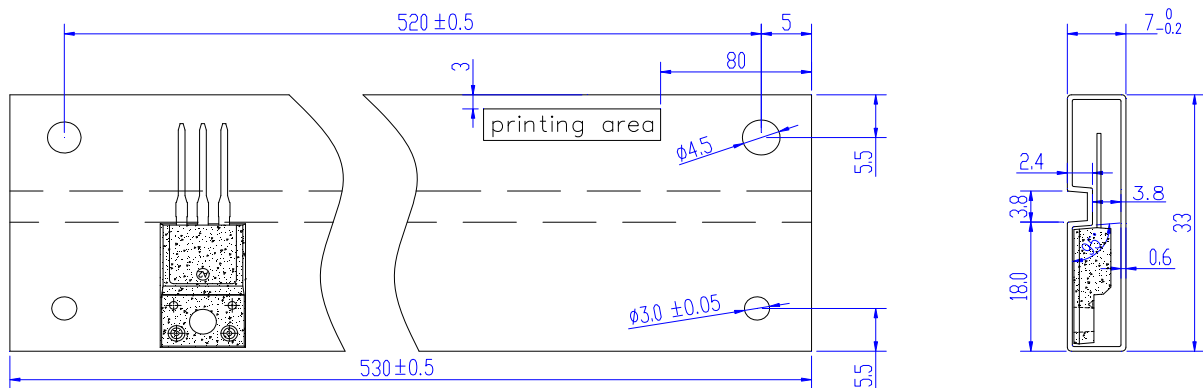
Date	Revision	Changes
Mar 27, 2022	1	Last update

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	2.45		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	2.40		2.70	0.094		0.106
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°	

DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-220F	TUBE	50	1,000	5,000



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