

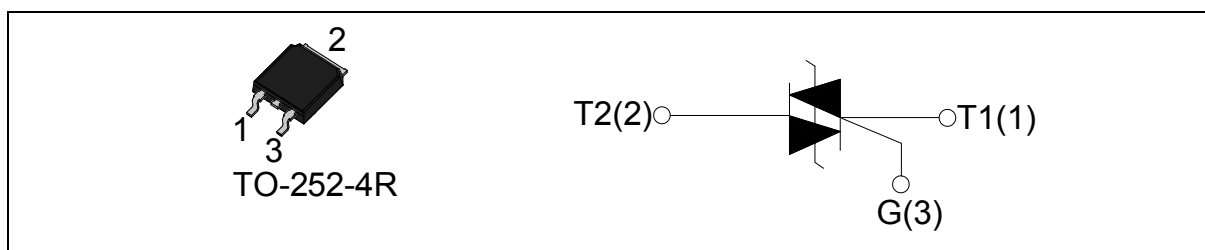


### DESCRIPTION:

T410H 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.

### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
$I_{GT1-3}$	10	mA
$V_{DRM}/V_{RRM}$	800	V



### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	$T_{stg}$	-40-150	°C
Operating junction temperature range	$T_j$	-40-125	°C
Repetitive peak off-state voltage( $T_j=25^{\circ}C$ )	$V_{DRM}$	800	V
Repetitive peak reverse voltage( $T_j=25^{\circ}C$ )	$V_{RRM}$	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	$I_{T(RMS)}$	4	A
TO-252-4R ( $T_C=112^{\circ}C$ )			
Non repetitive surge peak on-state current ( full cycle, F=50Hz)	$I_{TSM}$	40	A
$I^2t$ value for fusing ( $t_p=10ms$ )	$I^2t$	8	$A^2s$
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

**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	10	mA
$V_{GT}$		I - II -III	MAX	1.3	V
$V_{GD}$	$V_D=V_{DRM}$ $T_j=125^\circ\text{C } R_L=3.3\text{K}\Omega$	I - II -III	MIN	0.2	V
$I_L$	$I_G=1.2I_{GT}$	I -III	MAX	20	mA
		II		40	
$I_H$	$I_T=100\text{mA}$		MAX	15	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		MIN	700	V/ $\mu\text{s}$

**STATIC CHARACTERISTICS**

Symbol	Parameter		Value(MAX)	Unit
$V_{TM}$	$I_{TM}=6\text{A } t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.5	V
$I_{DRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	$\mu\text{A}$
$I_{RRM}$		$T_j=125^\circ\text{C}$	0.5	mA

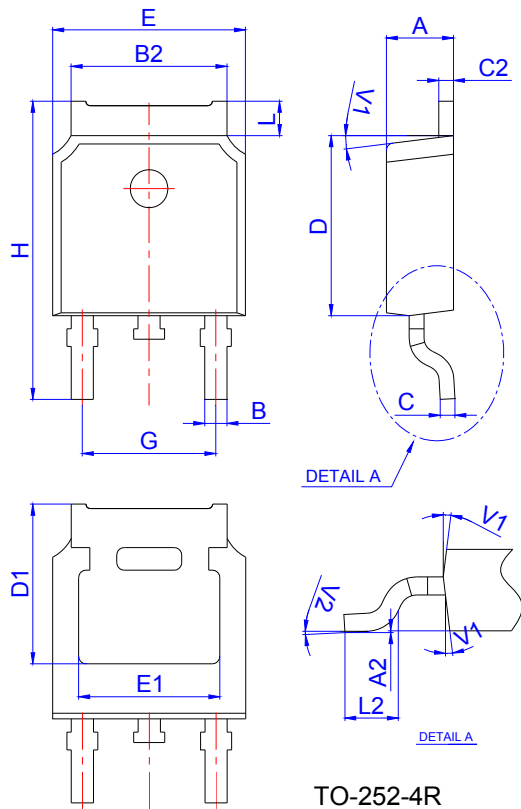
**THERMAL RESISTANCES**

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	TO-252-4R	4.5	$^\circ\text{C/W}$

**ORDERING INFORMATION**

<b>T</b> Triacs	<b>4</b> $I_{T(RMS)}:4\text{A}$	<b>10</b> $I_{GT1-3}\leq 10\text{mA}$	<b>H</b> H:High temperature junction	<b>8</b> $8:V_{DRM} / V_{RRM}\geq 800\text{V}$	<b>K</b> K:TO-252-4R
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PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0		0.10	0		0.004
B	0.66		0.86	0.026		0.034
B2	5.18		5.48	0.202		0.216
C	0.40		0.60	0.016		0.024
C2	0.44		0.58	0.017		0.023
D	5.90		6.30	0.232		0.248
D1	5.30REF			0.209REF		
E	6.40		6.80	0.252		0.268
E1	4.63			0.182		
G	4.47		4.67	0.176		0.184
H	9.50		10.70	0.374		0.421
L	1.09		1.21	0.043		0.048
L2	1.35		1.65	0.053		0.065
V1		7°			7°	
V2	0°		6°	0°		6°

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

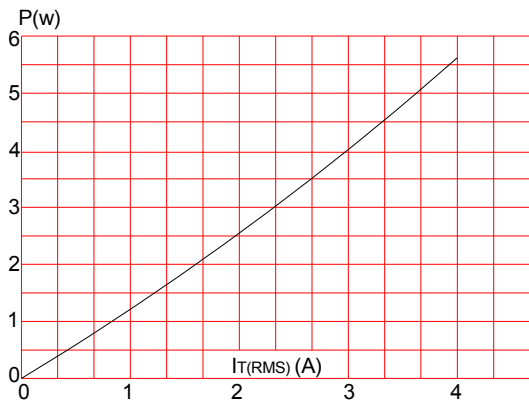
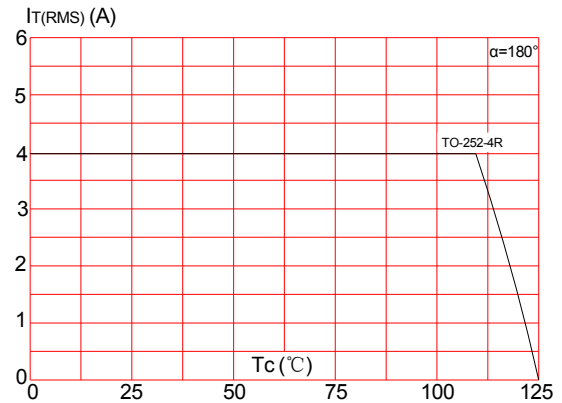
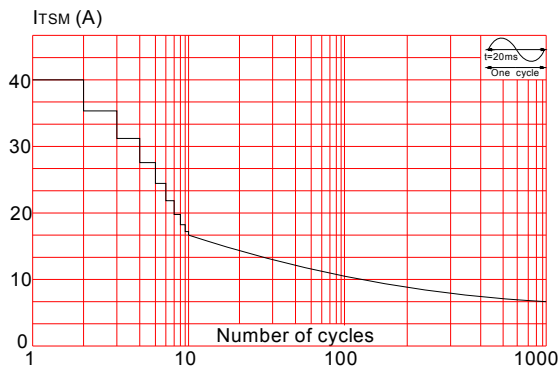


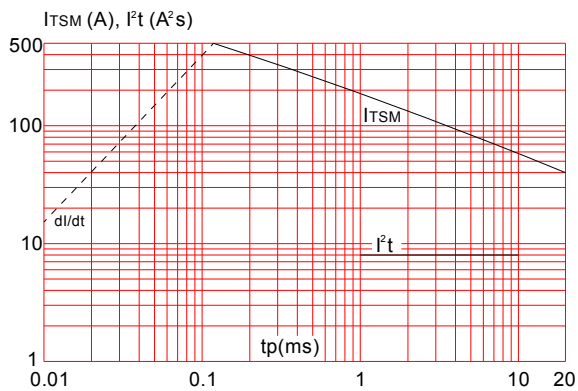
FIG.2: RMS on-state current versus case temperature



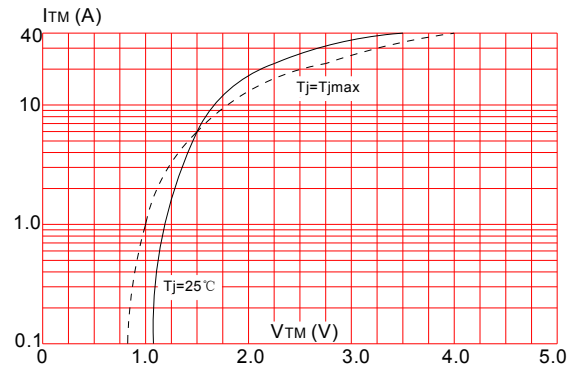
**FIG.3:** Surge peak on-state current versus number of cycles



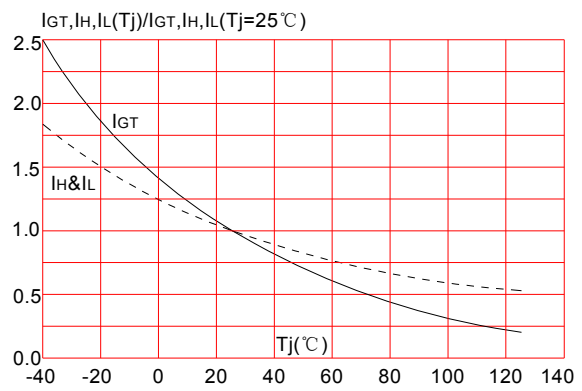
**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$  and corresponding value of  $I^2t$  ( $dI/dt < 50\text{A}/\mu\text{s}$ )




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



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



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