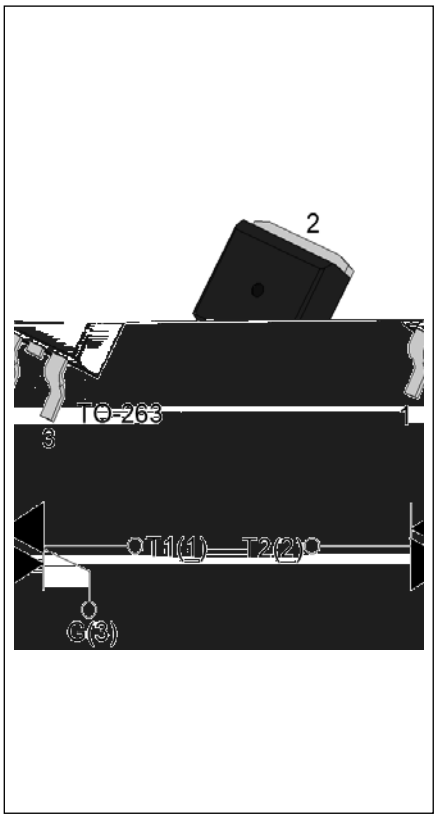
T0410H-6E 4A TRIAC

Rev.A.1.0

DESCRIPTION:

The T0410H6E tic is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as static relays, heating regulation, induction motor starting circuits, or for phase control operation in light dimmers, motor speed controllers, and similar. Compared to traditional triacs, T0410H6E provides high switching capability with a maximum junction temperature of 150°C. It can be driven directly through the MCU I/O port. Package TO263 is RoHS compliant.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	4	A
V_{DRM} / V_{RRM}	600	V
I_{GT} / /	10 / 10 / 10	mA

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-150	
Repetitive peak off-state voltage (T_j=25)	V_{DRM}	600	V
Repetitive peak reverse voltage (T_j=25)	V_{RRM}	600	V
RMS on-state current (T_c 137)	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle, t_p=20ms, T_j=25)	I_{TSM}	40	A
Non repetitive surge peak on-state current (full cycle, t_p=16.6ms, T_j=25)		44	
I^2t value for fusing (t_p=10ms, T_j=25)	I^2t	8	A^2s
Critical rate of rise of on-state current (I_G=2× I_{GT}, f=100Hz, T_j=150)	dI/dt	50	A/µs
Peak gate current (t_p=20µs, T_j=150)	I_{GM}	4	A
Average gate power dissipation (T_j=150)	$P_{G(AV)}$	1	W

Peak gate power	P_{GM}	10	W
Peak gate voltage (Tj=25 ; non-repetitive, off-state; FIG. 8)	V_p	3	V

ELECTRICAL CHARACTERISTICS (Tj=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	V_D=12V R_L=33Ω	- -	MAX.	10	mA
V_{GT}		- -	MAX.	1	V
V_{GD}	V_D=V_{DRM} Tj=150 R_L=3.3KΩ	- -	MIN.	0.2	V
I_L	I_G=1.2I_{GT}	-	MAX.	20	mA
				35	
I_H	I_T=100mA		MAX.	20	mA
[redacted]					V/μs
					A/ms
t_{on}	I_G=20mA I_A=200mA I_R=20mA		TYP.	2.5	μs
t_{off}	Tj=25			25	

ORDERING INFORMA

T 04

Tri CS

IT (RMS): 4A

10: 6T1

MARKING

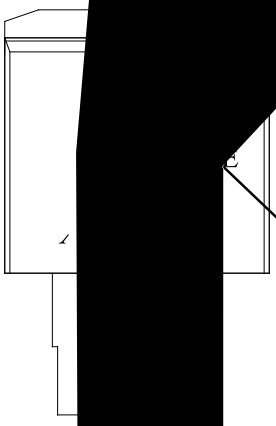


FIG.1 Mxi mpd i si pi owsRMS
o tscrn

FIG.2: RMS o -tscrowas
tepa

FIG.7: Relative variation of gate trigger current, holding current and latching current versus junction temperature

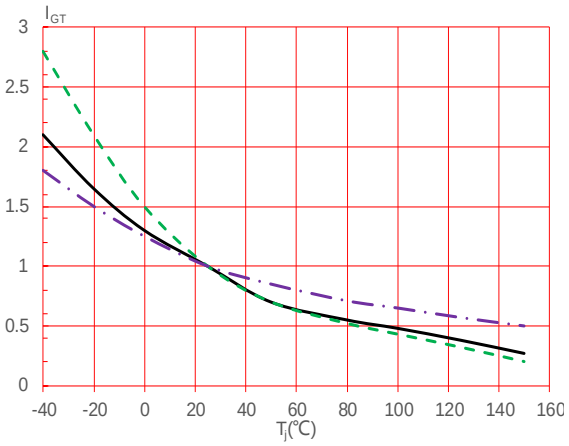
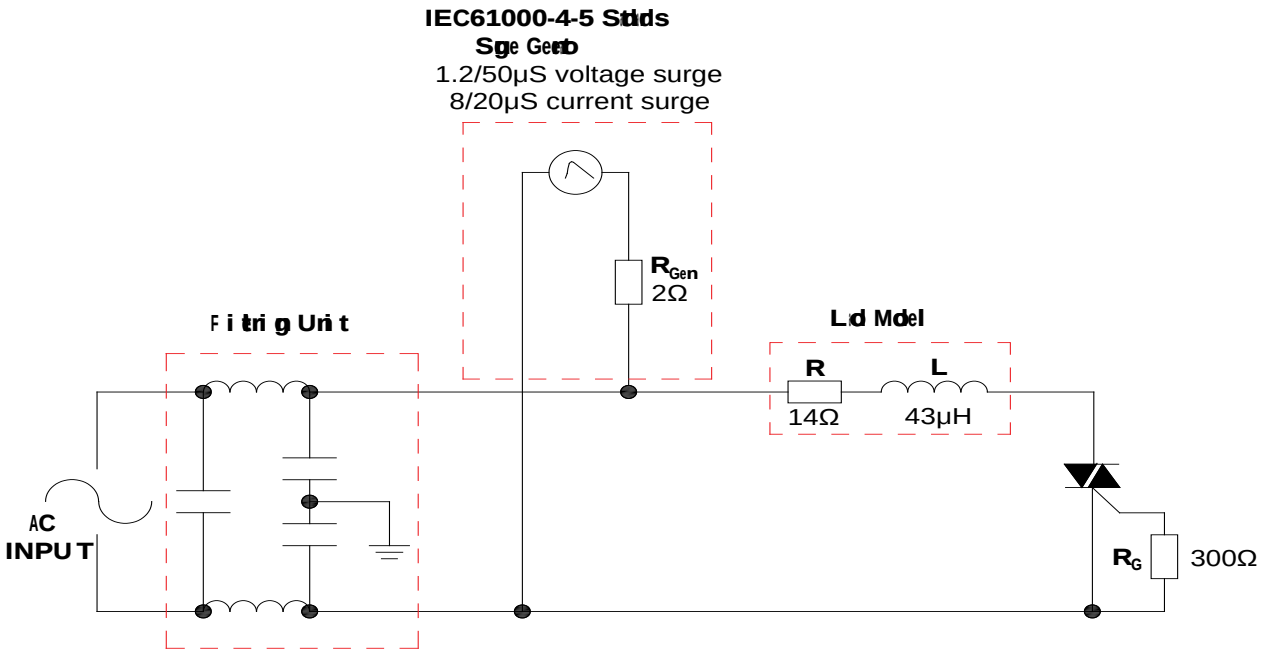
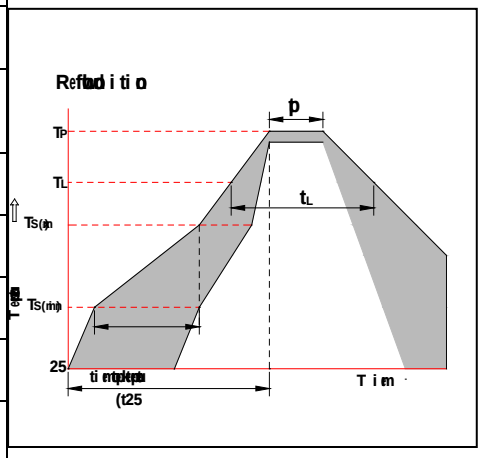


FIG.8 Test circuit for conductive resistivity tested IEC -61000-4-5 standards



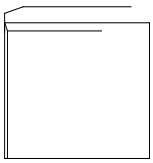
SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure right)
Pre Heat	- Temperature Min ($T_{s(min)}$)	+150
	- Temperature Max ($T_{s(max)}$)	+200
	- Time (Min to Max) (t_s)	60-180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3 /sec. Max
$T_{s(max)}$ to T_L - Ramp up Rate		3 /sec. Max
Reflow	- Temperature (T_L) (Liquidus)	+217
	- Temperature (t_L)	60-150 secs
Peak Temperature (T_p)		+260(+0/-5)
Time within 5 of actual Peak Temperature (t_p)		20-40secs
Ramp-down Rate		6 /sec. Max
Time 25 to Peak Temperature (T_P)		8 min Max
Do not exceed		+260



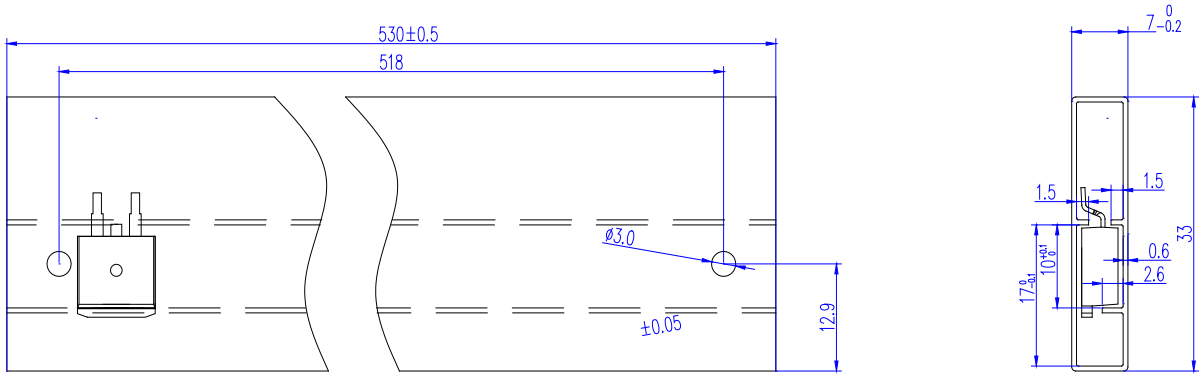
T0410H-6E

PACKAGE MECHANICAL DATA

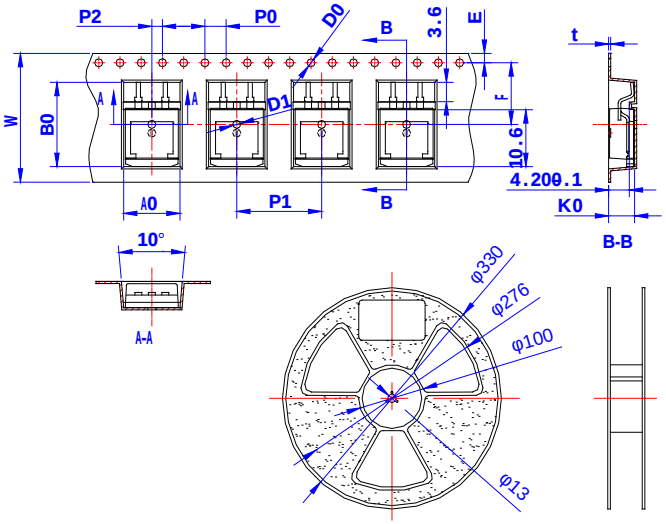


Ref.	Dimensions					
	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
A	9.90		10.20	0.390		0.402
B	14.70		15.80	0.579		0.622
C	9.40		9.60	0.37		0.378
D	2.40			0.094		
E	1.20		1.50	0.047		0.059
F	0.75		0.85	0.029		0.033
G			1.50			
H	4.40		4.70	0.173		0.185
J	2.30		2.70	0.091		0.106
K	0.38		0.55	0.015		0.022
L	0		0.25			
M	1.25		1.35			

DELIVERY MODE



PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO263	TUBE	50	1,000	5,000



Ref.	Dimensions					
	Millimeters			Inches		
	Min	Typ	Max	Min	Typ	Max
W	23.70	24.00	24.30	0.933	0.945	0.957
E	1.65	1.75	1.85	0.065	0.069	0.073
F	11.40	11.50	11.60	0.449	0.453	0.457
D0	-	1.50	1.60	-	0.059	0.063
D1	-	1.50	1.60	-	0.059	0.063
P0	3.90	4.00	4.10	0.154	0.157	0.161
P1	15.90	16.00	16.10	0.626	0.630	0.634
P2	1.90	2.00	2.10	0.075	0.079	0.083
A0	10.80	10.90	11.00	0.425	0.429	0.433
B0	16.20	16.30	16.40	0.638	0.642	0.646
K0	4.80	4.90	5.00	0.189	0.193	0.197
t	0.35	0.40	0.45	0.014	0.016	0.018