T2050H-6E 20A TRIAC

Rev.A.1.1

The T2050H-6E triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. Compared to traditional triacs, T2050H-6E provides a very high switching capability up to junction temperatures of 150 °C. Package TO-263 is RoHS compliant.

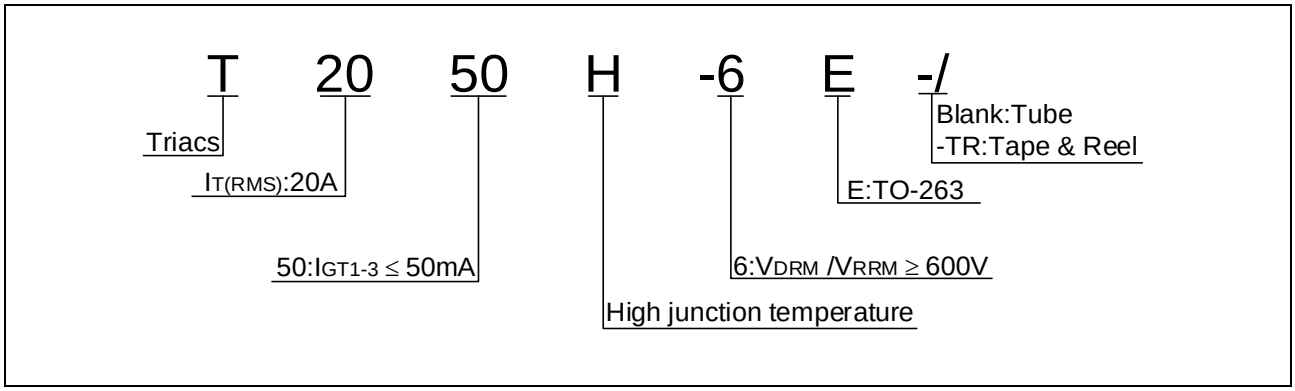
Symbol	Value	Unit
$I_{T(RMS)}$	20	A
V_{DRM} /V_{RRM}	600	V
I_{GT} / /	50/50/50	mA

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 ($T_C \leq$ 121)	$I_{T(RMS)}$	20	A
Non repetitive surge peak on-state current (full cycle , t_p=20ms , T_j=25)	I_{TSM}	200	A
Non repetitive surge peak on-state current (full cycle , t_p=16.6ms , T_j=25)		220	
I^2t value for fusing (t_p=10ms , T_j=25)	I^2t	200	A^2s
Critical rate of rise of on-state current (I_G=2 × I_{GT} , f=100Hz , T_j=150)	dI/dt	100	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 pulse voltage (T_j=25 ; non-repetitive,off-state;FIG.8)	V_{pp}	4	kV

(T_j=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value	Unit
I_{GT}	V_D =12V R_L =33Ω	מ	מ	


T
20
50
H
-6
E
-/
Triacs
IT(RMS):20A
50:IGT1-3 ≤ 50mA
High junction temperature
6:VDRM /VRRM ≥ 600V
E:TO-263
Blank:Tube
-TR:Tape & Reel

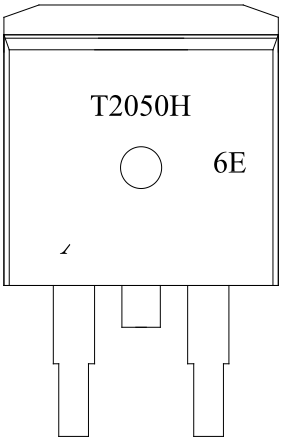

T2050H
6E

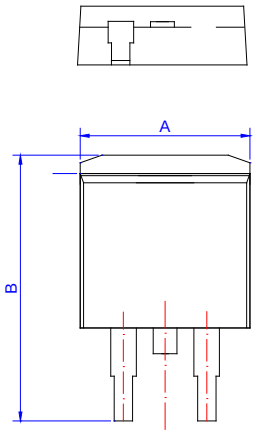
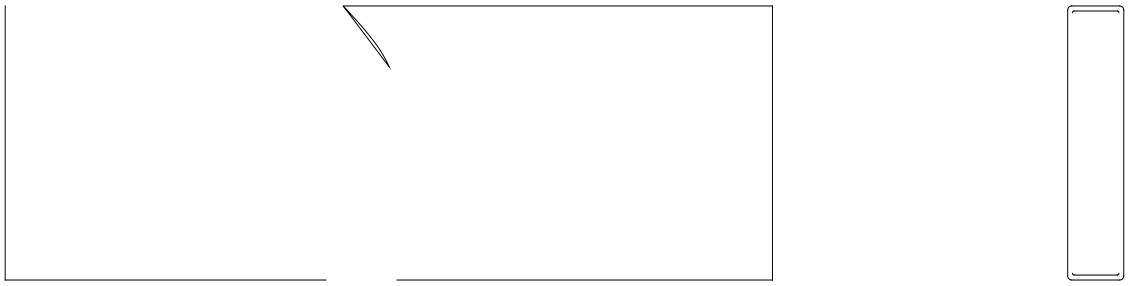
FIG.1: Maximum power dissipation versus RMS on-state current

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

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

FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		- -			
T2050H-6E	600	50	TO-263	50	Tube
T2050H-6E-TR				800	Tape & Reel



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	0.370		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