T16D6

Three quadrant triacs

HAOPIN MICROELECTRONICS CO.,LTD.

Description

Passivated high commutation triacs in a plastic envelope intended for use in circuits where high static and dynamic dV/dt and high dI/dt can occur. These devices will commutate the full rated ms current at the maximum rated junction temperature without the aid of a snubber.

Symbol	Simplified outline
T2 —◁▷— T1 G	TO-220

Pin	Description
1	Main terminal 1 (T1)
2	Main terminal 2 (T2)
3	gate (G)
TAB	Main terminal 2 (T2)

Applications:

- Motor control
- Industrial and domestic lighting
- Heating
- Static switching

Features

- Blocking voltage to 600 V
- On-state RMS current to 16A

SYMBOL	PARAMETER	Value	Unit
V_{DRM}	Repetitive peak off-state voltages	600	V
$I_{T(RMS)}$	RMS on-state current	16	A
I_{TSM}	Non-repetitive peak on-state current	140	A

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$R_{thj\text{-}c}$	Thermal resistance Junction to case		-	-	1.4	℃/W
$R_{thj\text{-}a}$	Thermal resistance Junction to ambient	in free air	-	-	-	K/W

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Limiting values in accordance with the Maximum system(IEC 134)

SYMBOL	PARAMETER	CONDITIONS		MIN	Value	UNIT
V_{DRM}	Repetitive peak off-state voltages			-	600	V
$I_{T(RMS)}$	RMS on-state current	Full sine wave;T_{mb}≤99℃		-	16	A
I_{TSM}	Surge on-state current	one cycle, peak ,non-repetitive	50 Hz	-	155	A
			60 Hz	-	170	A
I^2t	I^2t for fusing	value for one cycle of surge current		-	120	A^2S
V_{GM}	Peak gate voltage			-	10	V
I_{GM}	Peak gate current			-	2	A
P_{GM}	Peak gate power dissipation			-	5	W
$P_{G(AV)}$	Average gate power dissipation			-	0.5	W
T_{stg}	Storage temperature			-40	125	℃
T_j	Operating junction temperature			-40	125	℃

T_J=25°C unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS		MIN	TYP	MAX	UNIT
I_{GT}	Gate trigger current	V_D=6V;R_L=10Ω	I_{GT1}+ 1	-	-	30	mA
			I_{GT1}- 2	-	-	30	mA
			I_{GT3}+ 3	-	-	-	mA
			I_{GT3}- 4	-	-	30	mA
V_{GT}	Gate trigger voltage	V_D=6V;R_L=10Ω	V_{GT1}+ 1	-	-	1.5	V
			V_{GT1}- 2	-	-	1.5	V
			V_{GT3}+ 3	-	-	-	V
			V_{GT3}- 4	-	-	1.5	V
V_{TM}	Peak on-state voltage	I_T=20A ,lnst,measurement		-	-	1.4	V
I_{DRM}	Reptitive peak off-state current	V_D=V_{DRM}, single phase ,half wave,Tj=125℃		-	-	2	mA
V_{GD}	Non-trigger gate voltage	Tj=125℃ V_D=1/2 V_{DRM}		0.2	-	-	V
I_H	Holding current			-	25	-	mA
(dv/dt)c	critical rate of rise off-statevoltage at commutation	Tj=125℃ ,(di/dt)c=-8A/ms,V_D=2/3V_{DRM}		10	-	-	V/μs

Note 1 : Although not recommended,off-state voltages up to 800V may be applied without damage ,but the triac may swith to the on-state .the rate of current should not exceed 15A/us.
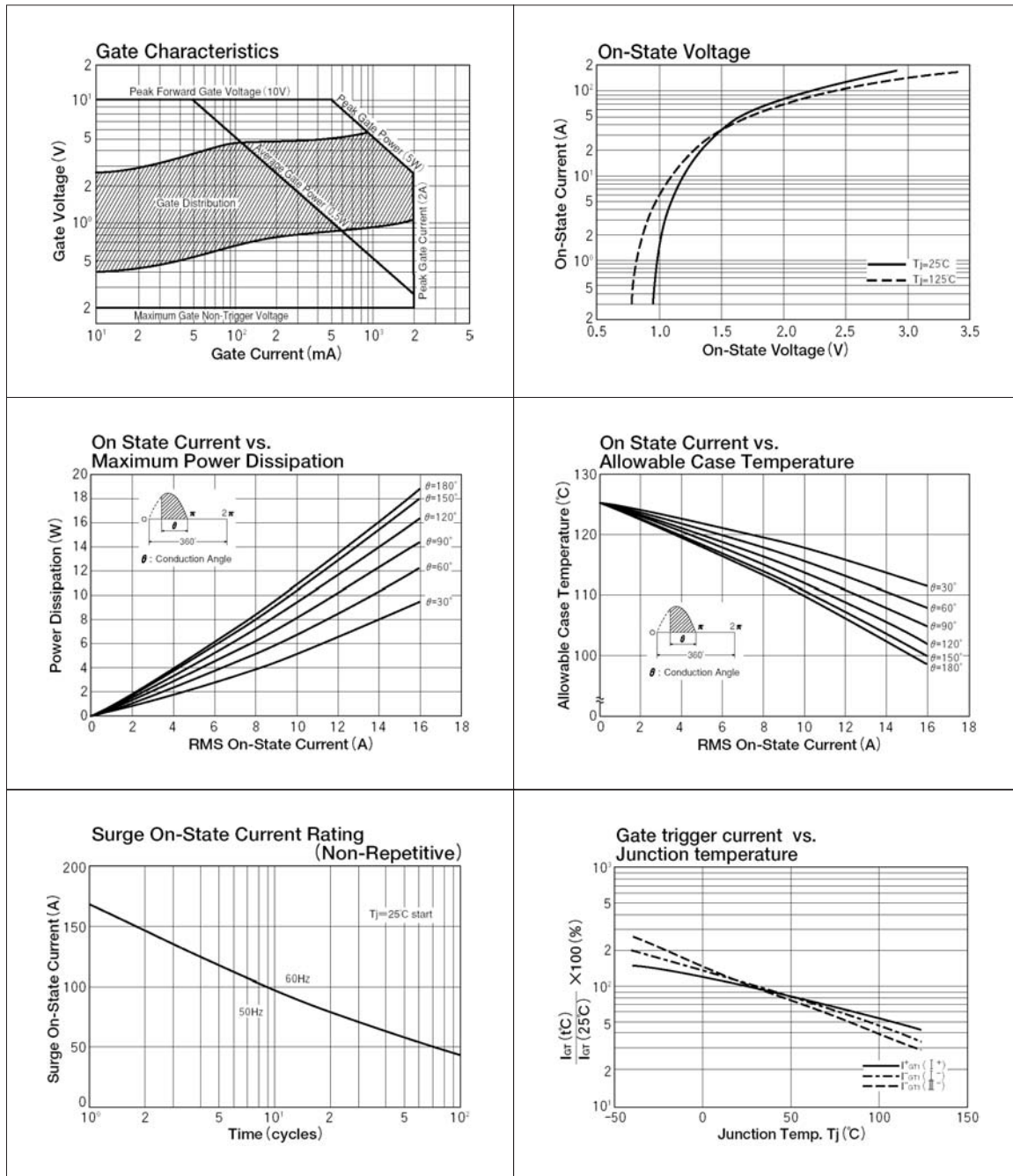
Note 2 : Device does not trigger in the T2-,G+ quadrant.

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Description

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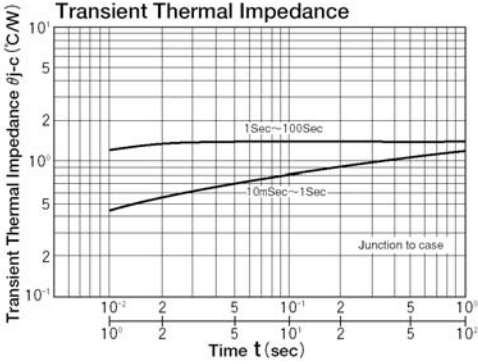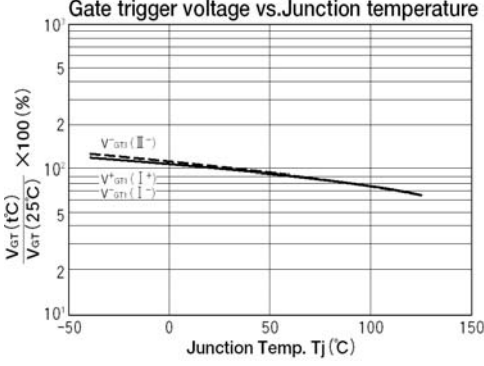
Description

Transient Thermal Impedance

Gate trigger voltage vs.Junction temperature

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MECHANICAL DATA

Dimensions in mm
Net Mass: 2 g
TO-220
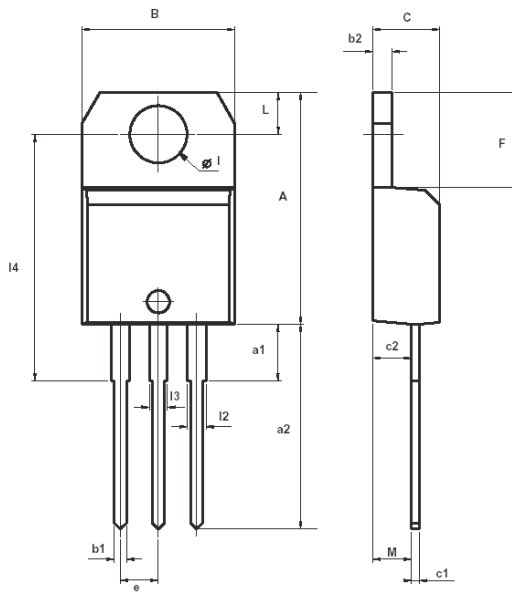
REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.20		15.90	0.598		0.625
a1		3.75			0.147	
a2	13.00		14.00	0.511		0.551
B	10.00		10.40	0.393		0.409
b1	0.61		0.88	0.024		0.034
b2	1.23		1.32	0.048		0.051
C	4.40		4.60	0.173		0.181
c1	0.49		0.70	0.019		0.027
c2	2.40		2.72	0.094		0.107
e	2.40		2.70	0.094		0.106
F	6.20		6.60	0.244		0.259
I	3.75		3.85	0.147		0.151
l4	15.80	16.40	16.80	0.622	0.646	0.661
L	2.65		2.95	0.104		0.116
l2	1.14		1.70	0.044		0.066
l3	1.14		1.70	0.044		0.066
M		2.60			0.102	