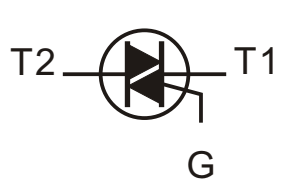
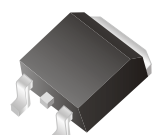


Description

Glass passivated triacs in a plastic envelope, intended for use in applications requiring high bidirectional transient and blocking voltage capability and high thermal cycling performance. Typical applications include motor control, industrial and domestic lighting, heating and static switching.

Symbol 		Simplified outline  TO-263
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 6 A

SYMBOL	PARAMETER	Value	Unit
V_{DRM}	Repetitive peak off-state voltages	600	V
$I_T (RMS)$	RMS on-state current (rull sine wave)	6	A
I_{TSM}	Non-repetitive peak on-state current (full cycle, T_j initial=25°C)	63	A

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$R_{th(j-c)}$	Junction to case(AC)		-	1.4	-	°C/W
$R_{th(j-a)}$	Junction to ambient		-	45	-	°C/W



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Triacs

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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	$T_e=110^{\circ}C$			-	6	A
I_{TSM}	Non repetitive surge peak on-state current	T_j initial =25 $^{\circ}C$	F=50Hz	t=20ms	-	60	A
			F=60Hz	t=16.7ms	-	63	A
I^2t	I^2t value for fusing	$T_p=10ms$			-	21	A 2 S
di/dt	Critical rate of rise of on-state current	$I_G=2 \times I_{GT}$, $tr \leq 100ns$	F=120Hz	$T_j=125^{\circ}C$	-	50	A/ μ s
I_{GM}	Peak gate current	$T_p=20 \mu s$		$T_j=125^{\circ}C$	-	4	A
I_{DRM}	$V_{DRM}=V_{RRM}$			$T_j=25^{\circ}C$	-	5	μ A
I_{RRM}	$V_{DRM}=V_{RRM}$			$T_j=125^{\circ}C$	-	1	mA
$P_{G(AV)}$	Average gate power			$T_j=125^{\circ}C$	-	1	W
T_{stg}	Storage temperature range				-40	150	$^{\circ}C$
T_j	Operating junction Temperature range				-40	125	$^{\circ}C$

$T_j=25^{\circ}C$ unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Static characteristics						
I_{GT}		$V_D=12V$; $R_L=30 \Omega$	-	-	25	mA
					50	mA
I_L		$I_G=1.2 I_{GT}$	-	-	40	mA
					80	mA
I_H		$I_T=500mA$	-	-	25	mA
V_{GT}		$V_D=12V$; $R_L=30 \Omega$	-	-	1.3	V
V_{GD}		$V_D=V_{DRM}$ $R_L=3.3K \Omega$ $T_j=125^{\circ}C$	0.2	-	-	V
dV/dt		$V_D=67\%V_{DRM}$ gate open; $T_j=125^{\circ}C$	200	-	-	V/ μ s
(dV/dt)c	(di/dt)c=2.7A/ms	$T_j=125^{\circ}C$	5	-	-	V/ μ s

Dynamic Characteristics

V_{TM}	$I_{TM}=5.5A$ $tp=380 \mu s$	$T_j=25^{\circ}C$	-	-	1.55	V
V_{to}	Threshold voltage	$T_j=125^{\circ}C$	-	-	0.85	V
R_d	Dynamic resistance	$T_j=125^{\circ}C$	-	-	60	m Ω

Description

Fig. 1: Maximum power dissipation versus RMS on-state current (full cycle).

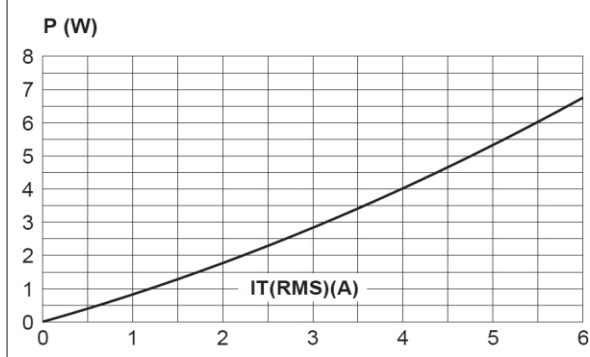


Fig. 2: RMS on-state current versus case temperature (full cycle).

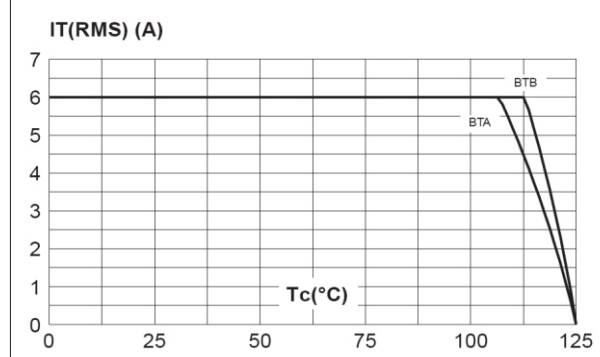


Fig. 3: Relative variation of thermal impedance versus pulse duration.

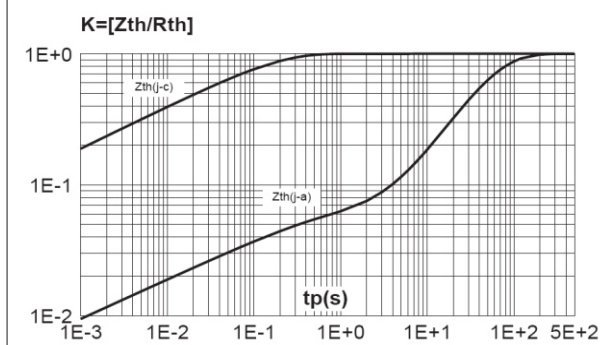


Fig. 4: On-state characteristics (maximum values).

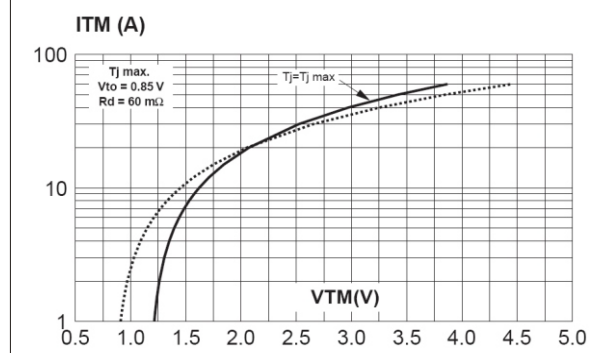


Fig. 5: Surge peak on-state current versus number of cycles.

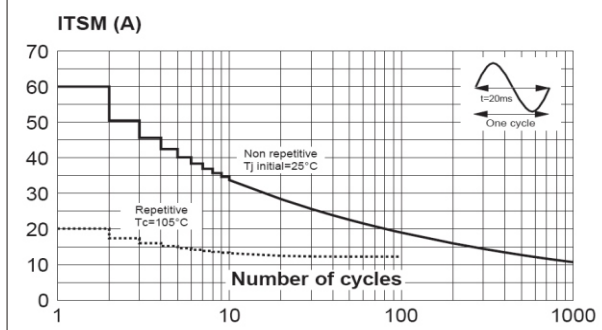
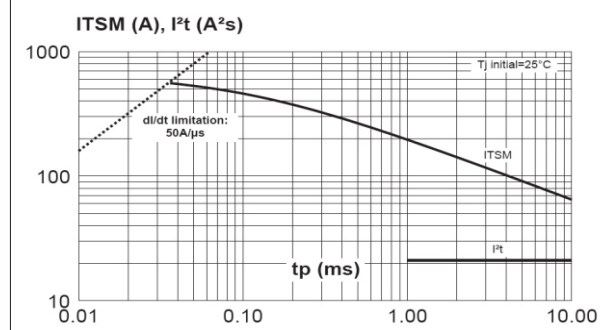


Fig. 6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $tp < 10\text{ms}$, and corresponding value of I^2t .



Description

Fig. 7: Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).

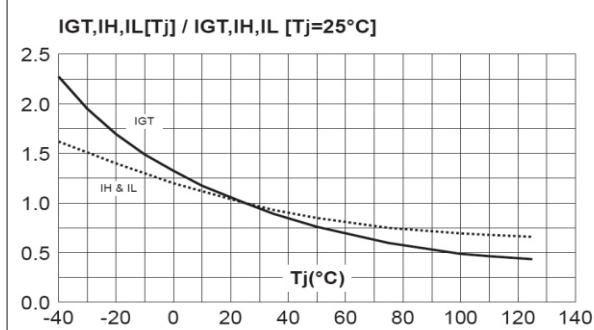


Fig. 8 : Relative variation of critical rate of decrease of main current versus (dV/dt)_c (typical values). Standard Types

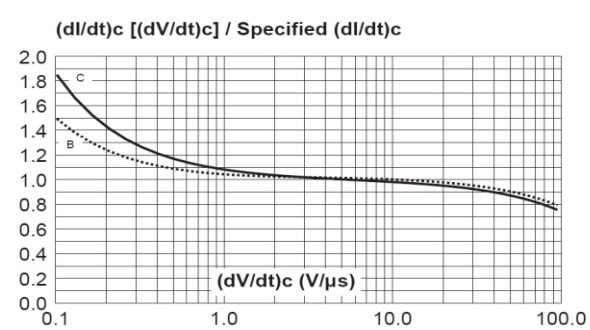
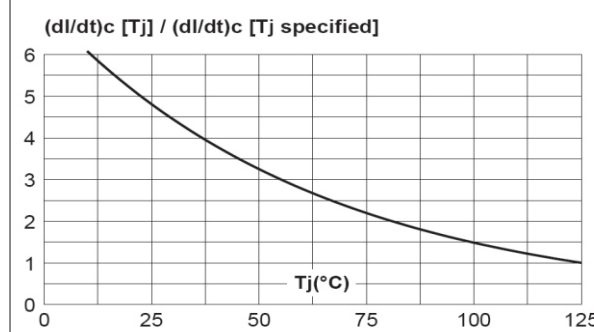


Fig. 9: Relative variation of critical rate of decrease of main current versus junction temperature.





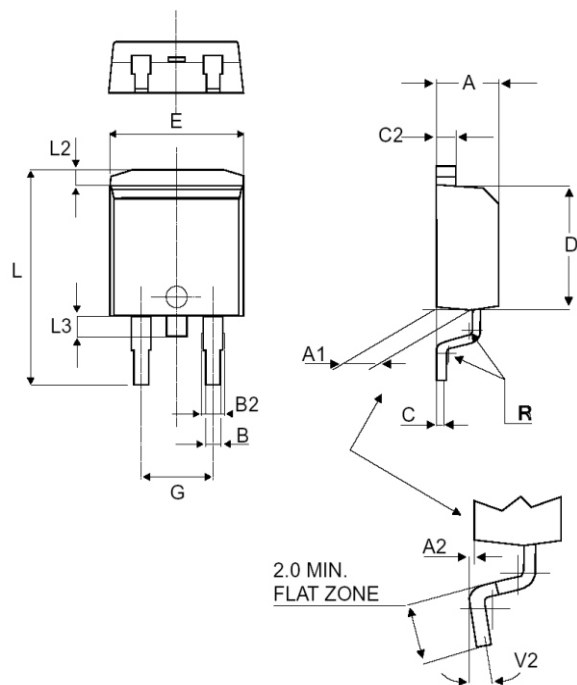
HP6T60CN

Triacs

HAOPIN MICROELECTRONICS CO.,LTD.

MECHANICAL DATA

Dimensions in mm
Net Mass: 2 g
TO-263



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.30		4.60	0.169		0.181
A1	2.49		2.69	0.098		0.106
A2	0.03		0.23	0.001		0.009
B	0.70		0.93	0.027		0.037
B2	1.25	1.40		0.048	0.055	
C	0.45		0.60	0.017		0.024
C2	1.21		1.36	0.047		0.054
D	8.95		9.35	0.352		0.368
E	10.00		10.28	0.393		0.405
G	4.88		5.28	0.192		0.208
L	15.00		15.85	0.590		0.624
L2	1.27		1.40	0.050		0.055
L3	1.40		1.75	0.055		0.069
R		0.40			0.016	
V2	0°		8°	0°		8°