
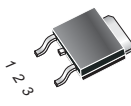


Description

Passivated, sensitive gate triacs in a plastic envelope, intended for use in general purpose bidirectional switching and phase control applications, where high sensitivity is required in all four quadrants.

Symbol		Simplified outline	
		 TO-252	
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 4 A

SYMBOL	PARAMETER	Value	Unit
V_{DRM}	Repetitive peak off-state voltages	600	V
$I_{T(RMS)}$	RMS on-state current	4	A
I_{TSM}	Non-repetitive peak on-state current	40	A

SYMBOL	PARAMETER	MIN	TYP	MAX	UNIT
$R_{\theta jc}$	Thermal Resistance - Junction-to-case	-	-	3.5	°C/W
$R_{\theta ja}$	Thermal resistance - Junction to ambient	-	-	88	°C/W



MAC4DHM (G)

Sensitive Gate Triacs

HAOPIN MICROELECTRONICS CO.,LTD.

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V_{DRM}	Repetitive peak off-state Voltages	$T_j = -40$ to 110°C , sine wave, 50 to 60 Hz, Gate open	-	600	V
$I_{T(RMS)}$	RMS on-state current Full sine wave 60 Hz	$T_c = 93^\circ\text{C}$	-	4	A
I^2t	Circuit fusing consideration	$t = 8.3\text{ms}$	-	6.6	A^2s
I_{GM}	Peak gate current	Pulse width $\leq 10 \mu\text{s}$ $T_c = 93^\circ\text{C}$	-	0.2	A
V_{GM}	Peak gate voltage	Pulse width $\leq 10 \mu\text{s}$ $T_c = 93^\circ\text{C}$	-	5	V
P_{GM}	Peak gate power	Pulse width $\leq 10 \mu\text{s}$ $T_c = 93^\circ\text{C}$	-	0.5	W
$P_{G(AV)}$	Average gate power	$t = 8.3\text{ms}$ $T_c = 108^\circ\text{C}$	-	0.1	W
T_{stg}	Storage temperature		-40	150	$^\circ\text{C}$
T_j	Operating junction Temperature range		-40	110	$^\circ\text{C}$

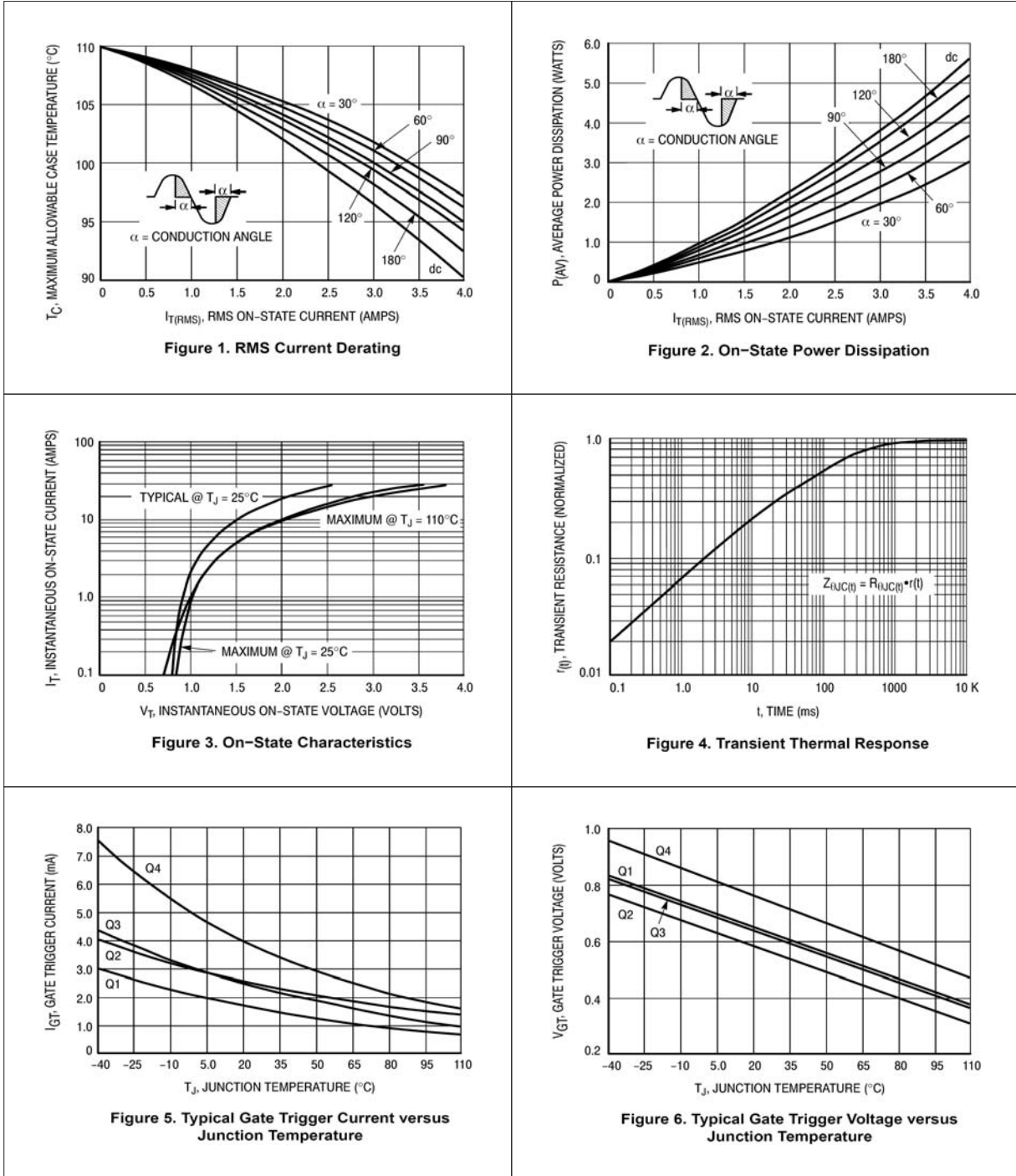
$T_j = 25^\circ\text{C}$ unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT	
Static characteristics							
I_{GT}	Gate trigger current	$V_D = 12\text{V}; R_L = 100 \Omega$	MT2(+),G(+)	-	1.8	5	mA
			MT2(+),G(-)	-	2.1	5	
			MT2(-),G(-)	-	2.4	5	
			MT2(-),G(+)	-	4.2	5	
V_{GT}	Gate trigger voltage	$V_D = 12\text{V}; R_L = 100 \Omega$	MT2(+),G(+)	0.5	0.62	1.3	V
			MT2(+),G(-)	0.5	0.57	1.3	
			MT2(-),G(-)	0.5	0.65	1.3	
			MT2(-),G(+)	0.5	0.74	1.3	
I_L	Latching current	$V_D = 12\text{V}, I_G = 5.0\text{mA}$	MT2(+),G(+)	-	1.75	10	mA
			MT2(+),G(-)	-	5.2	10	
			MT2(-),G(-)	-	2.1	10	
			MT2(-),G(+)	-	2.2	10	
I_{DRM} I_{RRM}	Peak Repetitive blocking current	$V_D = \text{Rated } V_{DRM}, V_{RRM};$ Gate open	$T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	-	-	0.01 2.0	mA
I_H	Holding current	$V_D = 12\text{V}, \text{gate open}, \text{Initiating current} = +200\text{mA}$	-	1.5	15	mA	
V_{TM}	Peak on-state voltage	$I_{TM} = \pm 6.0\text{A}$	-	1.3	1.6	V	
V_{GD}	Gate Non-trigger voltage	$V_D = 12\text{V}; R_L = 100 \Omega$ $T_j = 110^\circ\text{C}$	0.1	0.4	-	V	

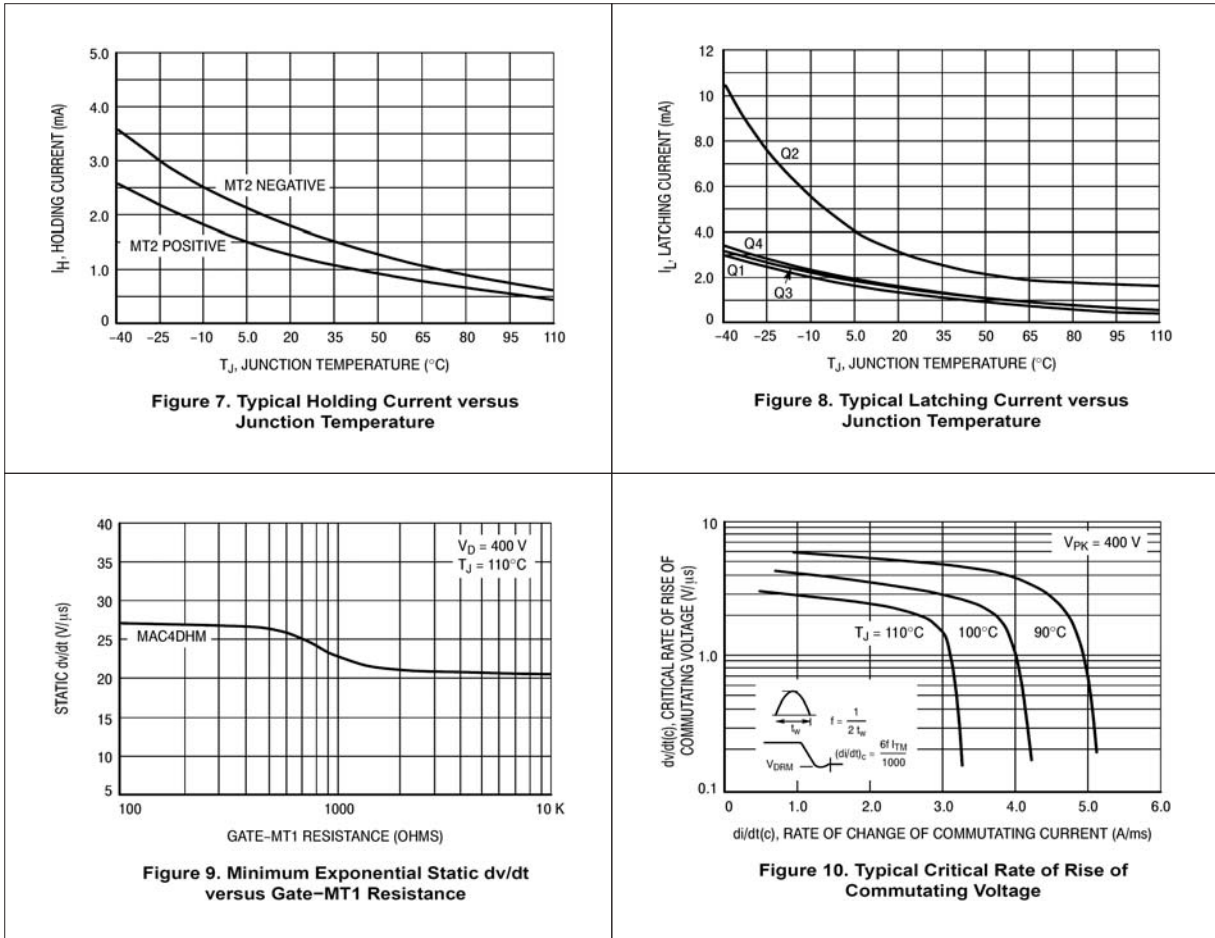
Dynamic Characteristics

D_v/dt	Critical rate of rise of Off-state voltage	$V_D = 67\% V_{DRM}, \text{gate open}; T_j = 110^\circ\text{C};$	20	-	-	$\text{V}/\mu\text{s}$
$(di/dt)_c$	Rate of change of commutating current	$V_D = 200\text{V}, I_{TM} = 1.8\text{A}$ $dv/dt = 1.0\text{V}/\mu\text{s}$ $T_j = 110^\circ\text{C}, f = 250\text{Hz}, CL = 5.0 \mu\text{fd},$ $LL = 80\text{mH}, RS = 56 \Omega CS = 0.03 \mu\text{fd}$	-	3.0	-	A/ms

Description

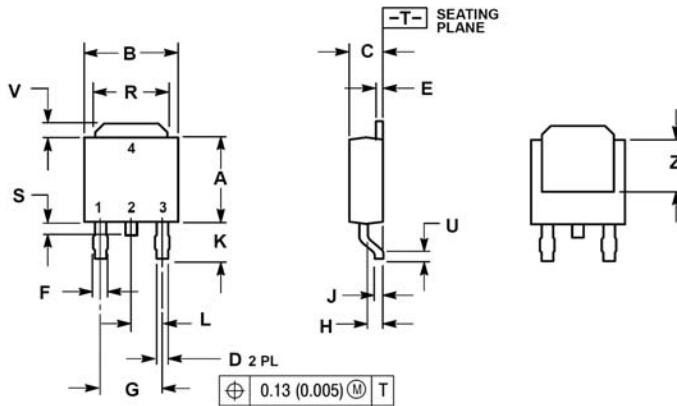


Description



MECHANICAL DATA

Dimensions in mm
Net Mass: 0.45 g



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.235	0.245	5.97	6.22
B	0.250	0.265	6.35	6.73
C	0.086	0.094	2.19	2.38
D	0.027	0.035	0.69	0.88
E	0.018	0.023	0.46	0.58
F	0.037	0.045	0.94	1.14
G	0.180	BSC	4.58	BSC
H	0.034	0.040	0.87	1.01
J	0.018	0.023	0.46	0.58
K	0.102	0.114	2.60	2.89
L	0.090	BSC	2.29	BSC
R	0.180	0.215	4.57	5.45
S	0.025	0.040	0.63	1.01
U	0.020	---	0.51	---
V	0.035	0.050	0.89	1.27
Z	0.155	---	3.93	---

- STYLE 6:
PIN 1. MT1
2. MT2
3. GATE
4. MT2