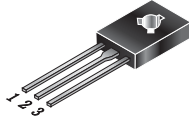


Description

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-126	
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	30	A

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$R_{\theta JC}$	Thermal resistance Junction to Case		-	-	3.5	°C/W
$R_{\theta JA}$	Thermal resistance Junction to ambient		-	-	75	°C/W



2N6075A

Sensitive Gate Triacs

HAOPIN MICROELECTRONICS CO.,LTD.

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; $T_c=85^{\circ}\text{C}$ Full cycle sine wave 50 to 60 Hz	-	4	A
I_{TSM}	Non-repetitive surge peak on-state current	One full cycle; 60 Hz, $T_j=110^{\circ}\text{C}$	-	30	A
I^2t	Circuit fusing considerations	$T=8.3\text{ ms}$	-	3.7	A^2S
V_{GM}	Peak gate voltage	Pulse width $\leq 1\text{ }\mu\text{s}$; $T_c=85^{\circ}\text{C}$	-	5	V
P_{GM}	Peak gate power	Pulse width $\leq 1\text{ }\mu\text{s}$; $T_c=85^{\circ}\text{C}$	-	10	W
$P_{G(AV)}$	Average gate power	$T=8.3\text{ ms}$; $T_c=85^{\circ}\text{C}$	-	0.5	W
T_{stg}	Storage temperature		-40	150	$^{\circ}\text{C}$
T_j	Operating junction Temperature		-40	110	$^{\circ}\text{C}$

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Static characteristics						
I_{GT1}	Gate trigger current	$V_D=12\text{V}$; $R_L=100\text{ }\Omega$ $T_2+\text{G+}$ $T_2+\text{G-}$ $T_2-\text{G-}$ $T_2-\text{G+}$	- - - -	5 5 5 10	20 20 20 30	mA mA mA mA
I_H	Holding current	$V_D=12\text{V}$; $I_{GT}=1\text{A}$ $T_j=-40^{\circ}\text{C}$ $T_j=25^{\circ}\text{C}$	- -	- -	30 15	mA mA
V_{TM}	On-state voltage	$I_{TM}=6\text{A}$	-	-	2	V
V_{GT}	Gate trigger voltage	$V_D=12\text{V}$; $R_L=100\text{ }\Omega$ $T_j=-40^{\circ}\text{C}$	-	1.4	2.5	V
V_{GD}	Gate trigger voltage	$V_D=12\text{V}$; $R_L=100\text{ }\Omega$ $T_j=110^{\circ}\text{C}$	0.2	-	-	V

Dynamic Characteristics

$dv/dt(c)$	Critical rate of rise of Off-state voltage	$T_j=85^{\circ}\text{C}$; gate open, $I_{TM}=5.7\text{ A}$ $di/dt=2\text{ A/ms}$	-	5	-	$\text{V}/\mu\text{s}$
t_{gt}	Gate controlled turn-on time	$I_{GT}=100\text{ mA}$	-	1.5	-	μs

Description

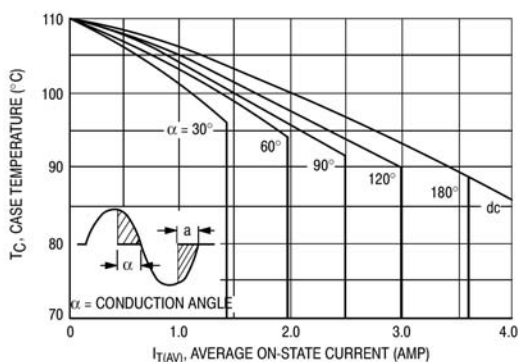


Figure 1. Average Current Derating

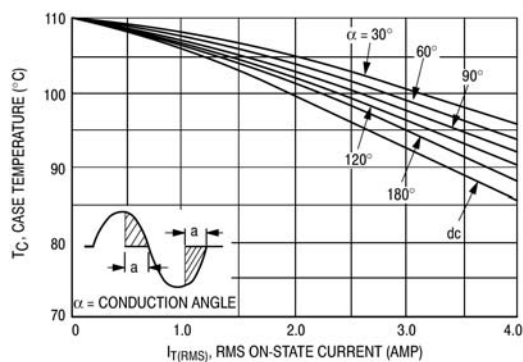


Figure 2. RMS Current Derating

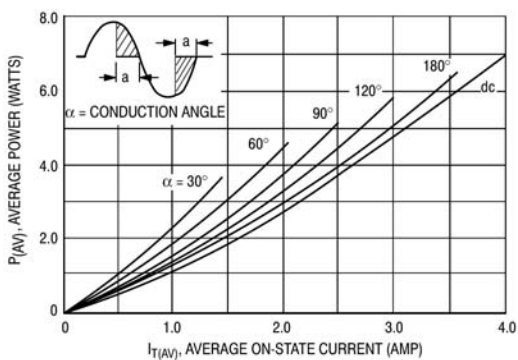


Figure 3. Power Dissipation

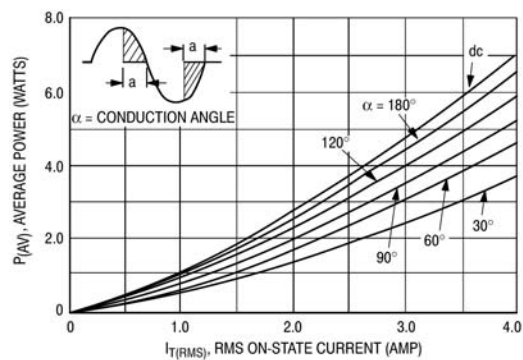


Figure 4. Power Dissipation

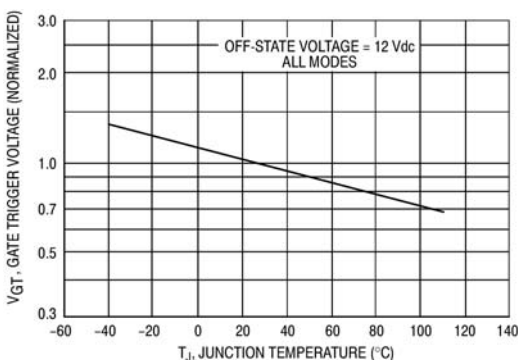


Figure 5. Typical Gate-Trigger Voltage

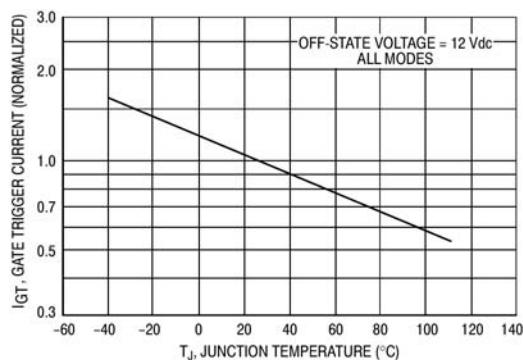


Figure 6. Typical Gate-Trigger Current

Description

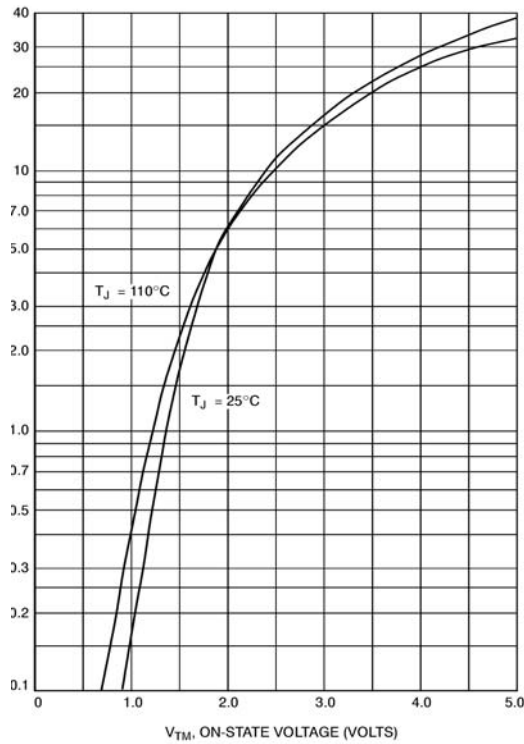


Figure 7. Maximum On-State Characteristics

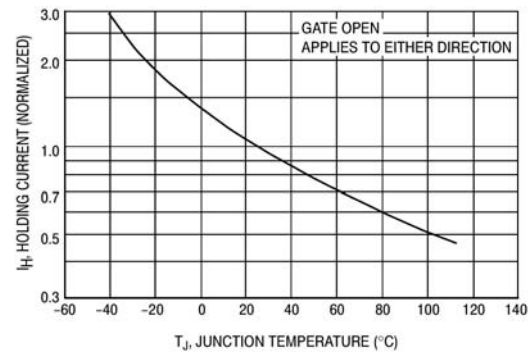


Figure 8. Typical Holding Current

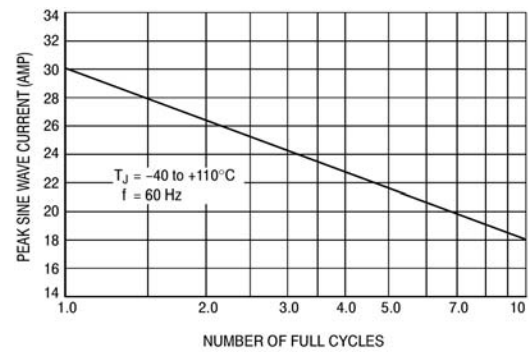


Figure 9. Maximum Allowable Surge Current

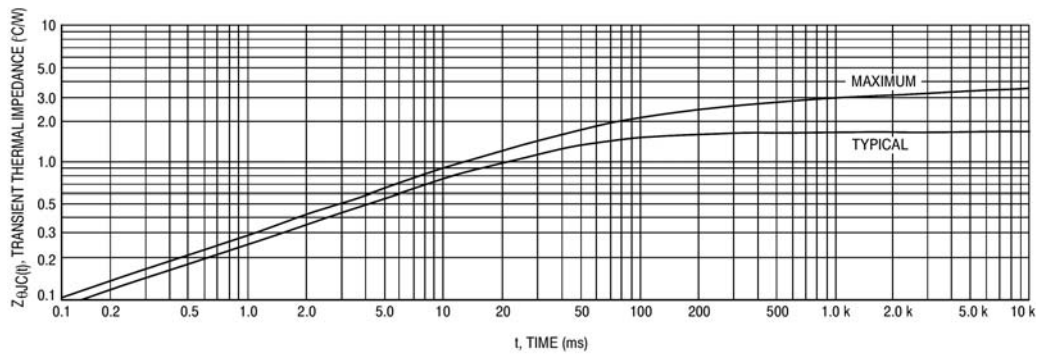


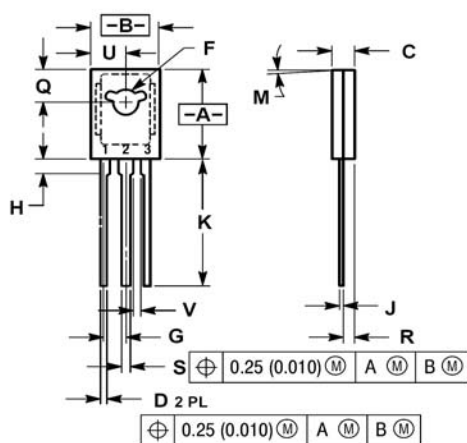
Figure 10. Thermal Response

MECHANICAL DATA

Dimensions in mm

Net Mass: 0.7 g

TO-126



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 077-01 THRU -08 OBSOLETE, NEW STANDARD 077-09.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.425	0.435	10.80	11.04
B	0.295	0.305	7.50	7.74
C	0.095	0.105	2.42	2.66
D	0.020	0.026	0.51	0.66
F	0.115	0.130	2.93	3.30
G	0.094 BSC		2.39 BSC	
H	0.050	0.095	1.27	2.41
J	0.015	0.025	0.39	0.63
K	0.575	0.655	14.61	16.63
M	5° TYP		5° TYP	
Q	0.148	0.158	3.76	4.01
R	0.045	0.065	1.15	1.65
S	0.025	0.035	0.64	0.88
U	0.145	0.155	3.69	3.93
V	0.040	---	1.02	---

STYLE 5:

1. MT 1
2. MT 2
3. GATE