

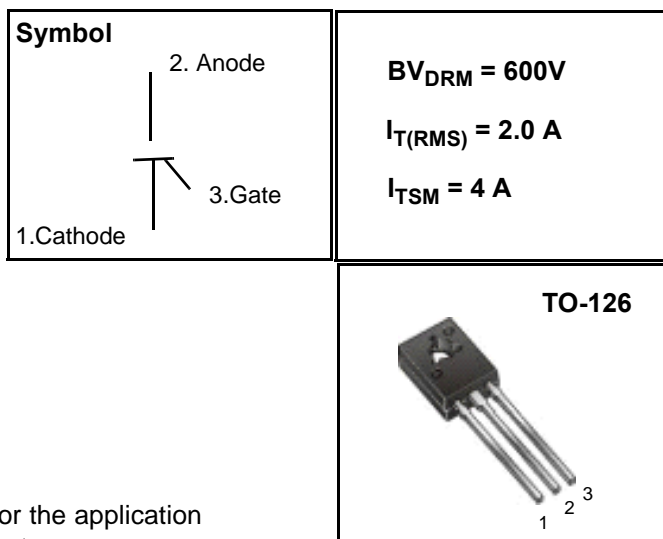
## Sensitive Gate Silicon Controlled - Rectifiers

### Features

Repetitive Peak Off-State Voltage : 600V  
 R.M.S On-State Current (  $I_{T(RMS)} = 2.0 \text{ A}$  )  
 On-State Voltage (2.2V(max) @  $I_{TM} = 4\text{A}$ )  
 Pb - Free Packages are Available

### General Description

Sensitive-gate triggering thyristor is suitable for the application where requiring low gate triggering current system  
 Used for electric blanket ,electronic jar ,temperature control,lighting control such as a entertainment display.  
 Automatic ignition system , Battery charger .



### Absolute Maximum Ratings ( $T_J = 25^\circ\text{C}$ unless otherwise specified )

Symbol	Parameter	Condition	Ratings	Units
$V_{DRM}$	Repetitive Peak Off-State Voltage	sine wave, 50 to 60Hz, gate open	600	V
$I_{T(AV)}$	Average On-State Current	half sine wave : $T_C = 77^\circ\text{C}$	2.0	A
$I_{T(RMS)}$	R.M.S On-State Current	180° Conduction Angle	4	A
$I_{TSM}$	Surge On-State Current	1/2 Cycle, 60Hz, Sine Wave Non-Repetitive	20	A
$I^2t$	$I^2t$ for Fusing	$t = 8.3\text{ms}$	1.65	$\text{A}^2\text{s}$
$P_{GM}$	Forward Peak Gate Power Dissipation	$T_C = 77^\circ\text{C}$ , pulse width $1.0\mu\text{s}$	0.5	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation	$T_C = 77^\circ\text{C}$ , pulse width $1.0\mu\text{s}$	0.1	W
$I_{FGM}$	Forward Peak Gate Current	$T_C = 77^\circ\text{C}$ , pulse width $1.0\mu\text{s}$	0.2	A
$V_{RGM}$	Reverse Peak Gate Voltage	$T_C = 77^\circ\text{C}$ , pulse width $1.0\mu\text{s}$	5.0	V
$T_J$	Operating Junction Temperature		- 40 ~ 125	$^\circ\text{C}$
$T_{STG}$	Storage Temperature		- 40 ~ 125	$^\circ\text{C}$

# D2P6M

## Electrical Characteristics ( $T_C = 25\text{ }^\circ\text{C}$ unless otherwise noted )

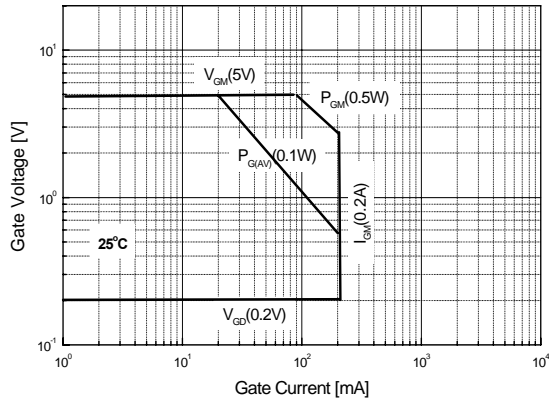
Symbol	Items	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
$I_{DRM}$	Repetitive Peak Off-State Current	$V_{AK} = V_{DRM}$ $T_C = 25\text{ }^\circ\text{C}$ $T_C = 125\text{ }^\circ\text{C}$			10 200	$\mu\text{A}$
$V_{TM}$	Peak On-State Voltage (1)	$I_{TM} = 4\text{ A}$ $t_p = 380\mu\text{s}$			2.2	V
$I_{GT}$	Gate Trigger Current (2)	$V_{AK} = 6\text{ V(DC)}$ , $R_L = 10$ $T_C = 25\text{ }^\circ\text{C}$			200	$\mu\text{A}$
$V_{GT}$	Gate Trigger Voltage (2)	$V_D = 6\text{ V(DC)}$ , $R_L = 10$ $T_C = 25\text{ }^\circ\text{C}$			1.5	V
$V_{GD}$	Non-Trigger Gate Voltage (1)	$V_{AK} = 12\text{ V}$ , $R_L = 100$ $T_C = 125\text{ }^\circ\text{C}$	0.2			V
dv/dt	Critical Rate of Rise Off-State Voltage	Linear slope up to $V_D = V_{DRM}$ 67% $R_{GK} = 1\text{ Kohm}$ $T_j = 125\text{ }^\circ\text{C}$	10			V/ $\mu\text{s}$
$I_H$	Holding Current	$I_T = 20\text{mA}$ , Gate Open $T_C = 25\text{ }^\circ\text{C}$			3	mA
$R_{th(j-c)}$	Thermal Impedance	Junction to case			10	$^\circ\text{C/W}$
$R_{th(j-a)}$	Thermal Impedance	Junction to Ambient			75	$^\circ\text{C/W}$

### Notes :

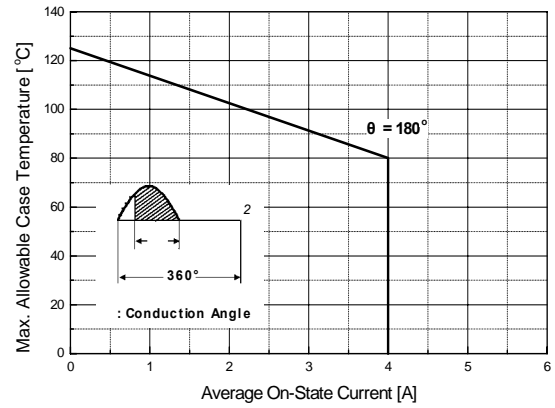
1. Pulse Width = 1.0 ms , Duty cycle 1%
2.  $R_{GK}$  Current not Included in measurement

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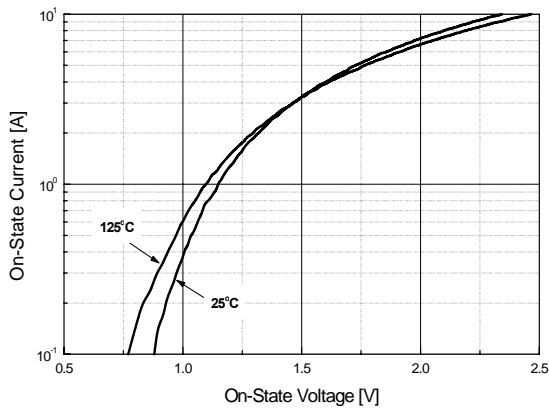
**Fig 1. Gate Characteristics**



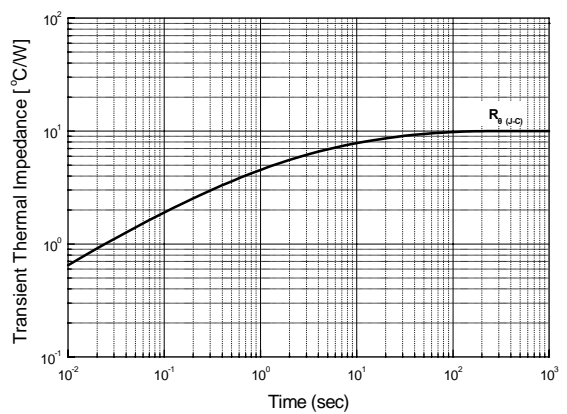
**Fig 2. Maximum Case Temperature**



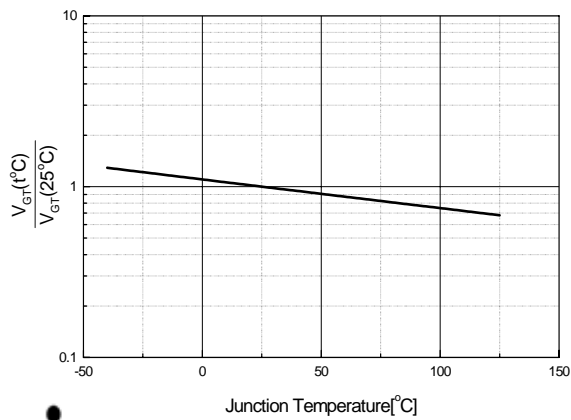
**Fig 3. Typical Forward Voltage**



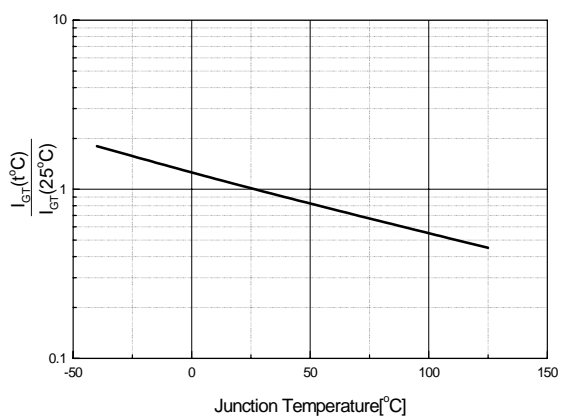
**Fig 4. Thermal Response**



**Fig 5. Typical Gate Trigger Voltage vs.**

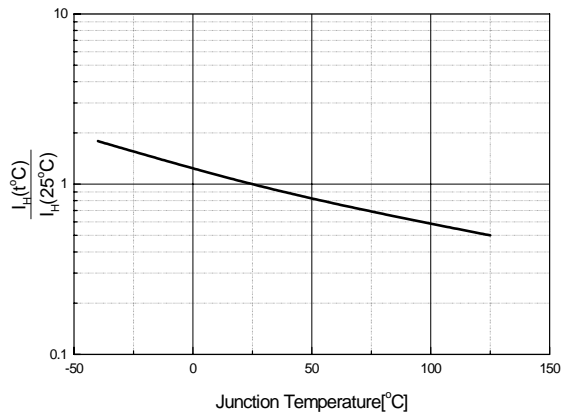


**Fig 6. Typical Gate Trigger Current vs. Junction Temperature**

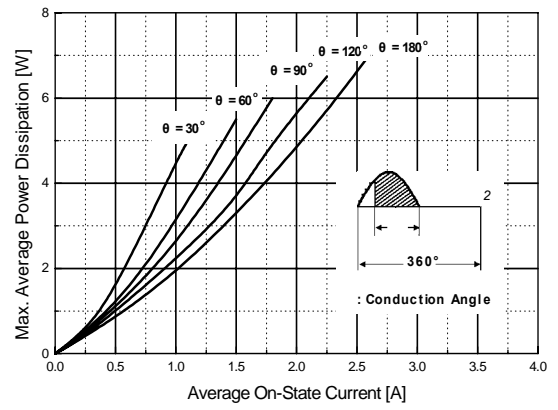


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**Fig 7. Typical Holding Current**



**Fig 8. Power Dissipation**



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## TO-126 Package Dimension

Dim.	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	7.5		7.9	0.295		0.311
B	10.8		11.2	0.425		0.441
C	14.2		14.7	0.559		0.579
D	2.7		2.9	0.106		0.114
E		3.8			0.150	
F		2.5			0.098	
G	1.2		1.5	0.047		0.059
H		2.3			0.091	
I		4.6			0.181	
J	0.48		0.62	0.019		0.024
K	0.7		0.86	0.028		0.034
L		1.4			0.055	
		3.2			0.126	

