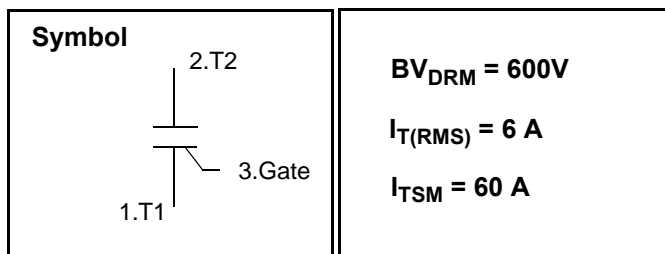


## Triacs / Standard Gate

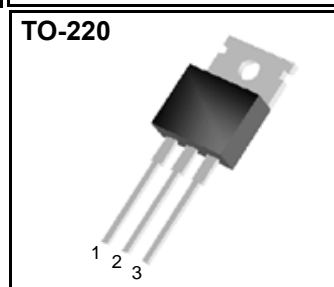
### Features

Repetitive Peak Off-State Voltage : 600V  
 R.M.S On-State Current (  $I_{T(RMS)} = 6\text{ A}$  )  
 High Commutation dv/dt  
 Standard Gate Triggering 3 Mode  
 Non-isolated Type



### General Description

This device is suitable for AC switching application, phase control application such as fan speed and temperature modulation control, lighting control and static switching relay.



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

Symbol	Parameter	Condition	Ratings	Units
$V_{DRM}$	Repetitive Peak Off-State Voltage		600	V
$I_{T(RMS)}$	R.M.S On-State Current	$T_C = 100^\circ\text{C}$	6.0	A
$I_{TSM}$	Surge On-State Current	One Cycle, 50Hz/60Hz, Peak, Non-Repetitive	60/66	A
$I^2t$	$I^2t$		18	$\text{A}^2\text{s}$
$P_{GM}$	Peak Gate Power Dissipation		3.0	W
$P_{G(AV)}$	Average Gate Power Dissipation		0.3	W
$I_{GM}$	Peak Gate Current		2.0	A
$V_{GM}$	Peak Gate Voltage		10	V
$T_J$	Operating Junction Temperature		- 40 ~ 125	$^\circ\text{C}$
$T_{STG}$	Storage Temperature		- 40 ~ 150	$^\circ\text{C}$
	Mass		2.0	g

# DTP6A60

## Electrical Characteristics

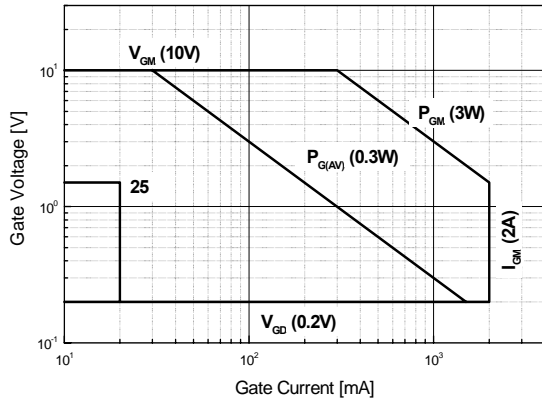
Symbol	Items	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
$I_{DRM}$	Repetitive Peak Off-State Current	$V_D = V_{DRM}$ , Single Phase, Half Wave $T_J = 125\text{ }^\circ\text{C}$			1.0	mA
$V_{TM}$	Peak On-State Voltage	$I_T = 8\text{ A}$ , Inst. Measurement			1.5	V
$I_{GT1}^+$	Gate Trigger Current	$V_D = 6\text{ V}$ , $R_L = 10$			20	mA
$I_{GT1}^-$					20	
$I_{GT3}^-$					20	
$V_{GT1}^+$	Gate Trigger Voltage	$V_D = 6\text{ V}$ , $R_L = 10$			1.5	V
$V_{GT1}^-$					1.5	
$V_{GT3}$					1.5	
$V_{GD}$	Non-Trigger Gate Voltage	$T_J = 125\text{ }^\circ\text{C}$ , $V_D = 1/2 V_{DRM}$	0.2			V
$(dv/dt)_c$	Critical Rate of Rise Off-State Voltage at Commutation	$T_J = 125\text{ }^\circ\text{C}$ , $[di/dt]_c = -3.0\text{ A/ms}$ , $V_D = 2/3 V_{DRM}$	5.0			V/ $\mu\text{s}$
$I_H$	Holding Current			10		mA
$R_{th(j-c)}$	Thermal Impedance	Junction to case			2.8	$^\circ\text{C/W}$

### Notes :

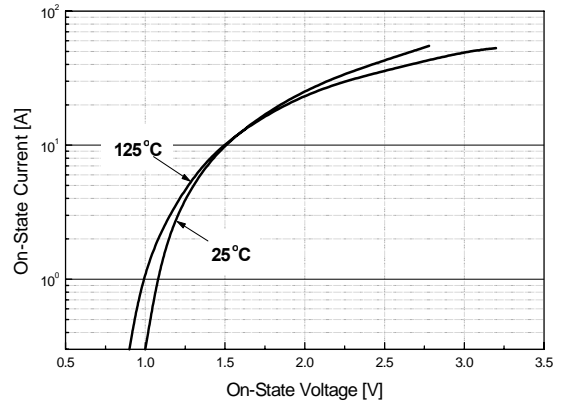
1. Pulse Width 300us , Duty cycle 2%

# DTP6A60

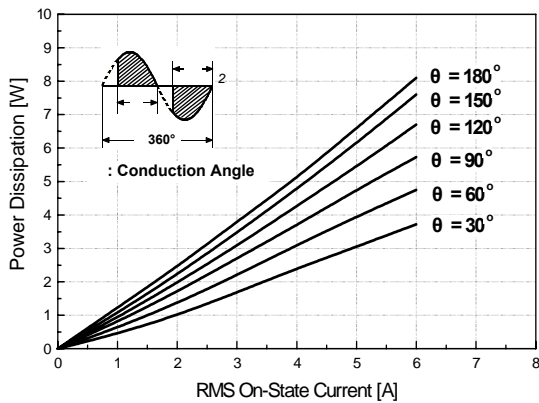
**Fig 1. Gate Characteristics**



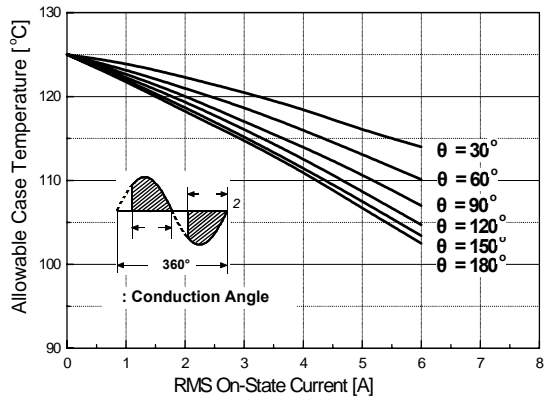
**Fig 2. On-State Voltage**



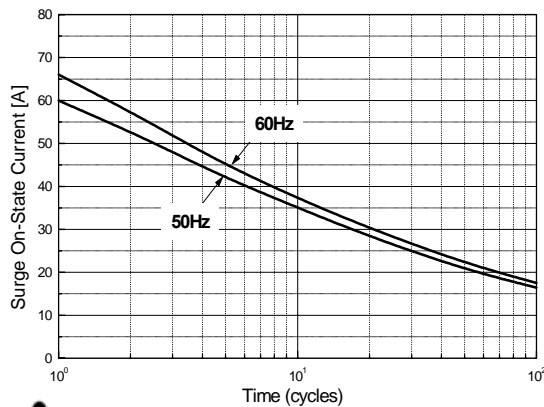
**Fig 3. On State Current vs. Maximum Power Dissipation**



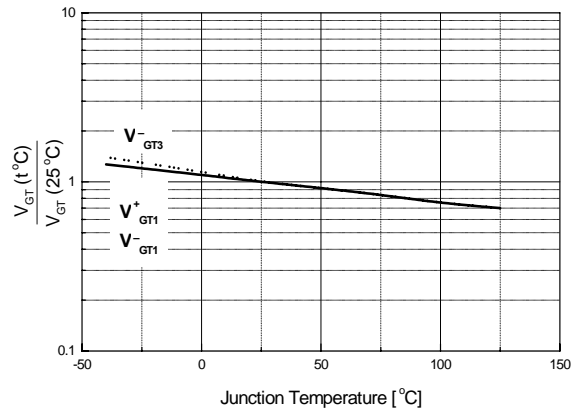
**Fig 4. On State Current vs. Allowable Case Temperature**



**Fig 5. Surge On-State Current Rating ( Non-Repetitive )**

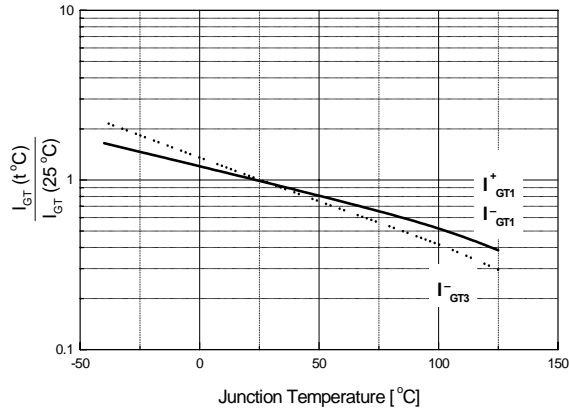


**Fig 6. Gate Trigger Voltage vs. Junction Temperature**

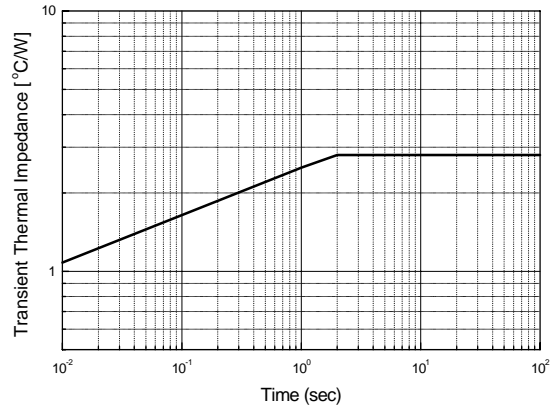


# DTP6A60

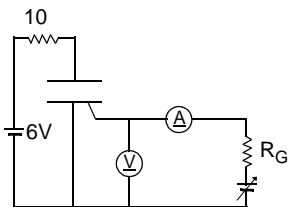
**Fig 7. Gate Trigger Current vs. Junction Temperature**



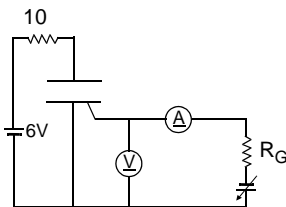
**Fig 8. Transient Thermal Impedance**



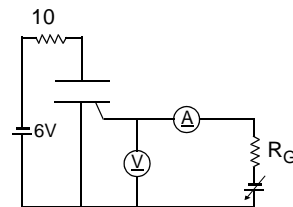
**Fig 9. Gate Trigger Characteristics Test Circuit**



Test Procedure



Test Procedure



Test Procedure

## DTP6A60

## TO-220 Package Dimension

Dim.	mm			Inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.7		10.1	0.382		0.398
B	6.3		6.7	0.248		0.264
C	9.0		9.47	0.354		0.373
D	12.8		13.3	0.504		0.524
E	1.2		1.4	0.047		0.055
F		1.7			0.067	
G		2.5			0.098	
H	3.0		3.4	0.118		0.134
I	1.25		1.4	0.049		0.055
J	2.4		2.7	0.094		0.106
K	5.0		5.15	0.197		0.203
L	2.2		2.6	0.087		0.102
M	1.25		1.55	0.049		0.061
N	0.45		0.6	0.018		0.024
O	0.6		1.0	0.024		0.039
		3.6			0.142	

