

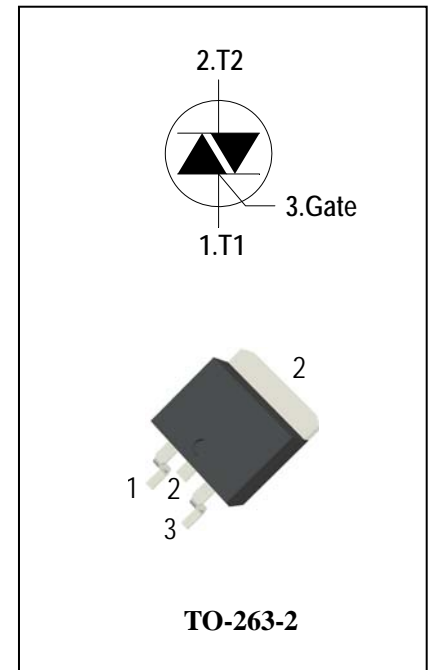
### 3 Quadrants Triacs

#### General Description

High current density due to mesa technology . the T2035C triac series is suitable for general purpose AC switching. They can be used as an ON/OFF function in applications such as static relays, heating regulation, High power motor controls e.g. washing machines and vacuum cleaners, Rectifier-fed DC inductive loads e.g. DC motors and solenoids , motor speed controllers.

#### Features

- ◆ Repetitive Peak Off-State Voltage: 600V and 800V
- ◆ R.M.S On-State Current (  $I_{T(RMS)} = 20A$  )
- ◆ High Commutation  $dv/dt$
- ◆ These Devices are Pb-Free and are RoHS Compliant



#### Absolute Maximum Ratings

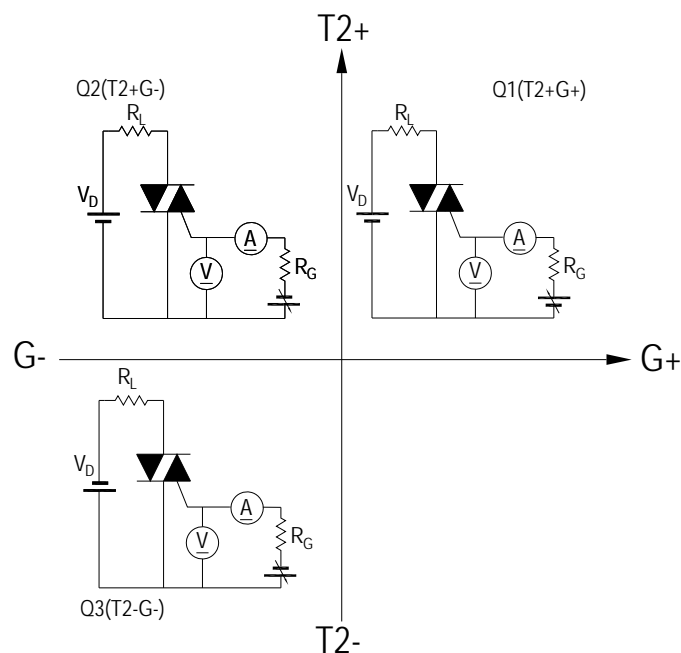
Symbol	Items	Conditions		Ratings	Unit
$V_{DRM}$ $V_{RRM}$	Repetitive Peak Off-State Voltage	$T_j = 25^{\circ}C$	T20XXC-6G	600	V
			T20XXC-8G	800	
$I_{T(RMS)}$	R.M.S On-State Current	$T_C = 90^{\circ}C$		20	A
$I_{TSM}$	Surge On-State Current	$t_p=20ms(50Hz)/t_p=16.7ms(60Hz)$		190/200	A
$I^2t$	$I^2t$ for fusing	$t_p=10ms$		156	A <sup>2</sup> s
$di/dt$	Critical rate of rise of on-state current	$F = 120\text{ Hz}$ $T_j = 125^{\circ}C$ $I_G = 2 \times I_{GT}$ , $t_r \leq 100\text{ ns}$		50	A/ $\mu s$
$I_{GM}$	Peak Gate Current	$t_p = 20\text{ }\mu s$ $T_j = 125^{\circ}C$		4	A
$P_{G(AV)}$	Average Gate Power Dissipation( $T_j=125^{\circ}C$ )			1	W
$P_{GM}$	Peak Gate Power Dissipation( $t_p=20\mu s, T_j=125^{\circ}C$ )			5	W
$T_j$	Operating Junction Temperature			- 40 ~ 125	$^{\circ}C$
$T_{STG}$	Storage Temperature			- 40 ~ 150	$^{\circ}C$



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

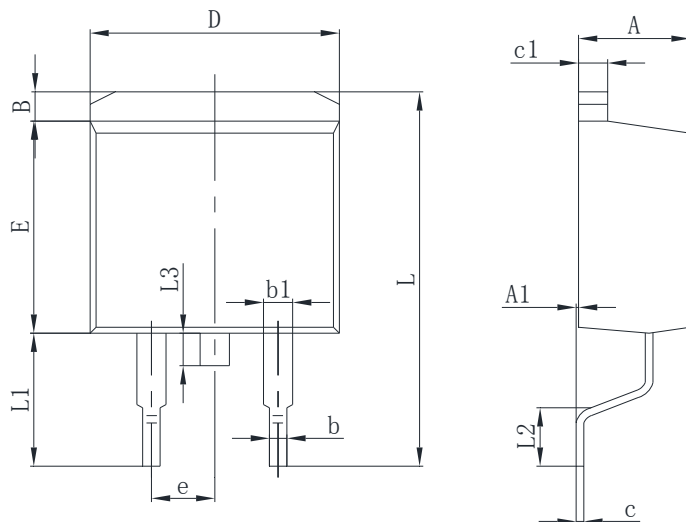
Symbol	Items	Conditions		T20XXC-6/8G				Unit
				T2005	T2010	T2035	T2050	
$I_{\text{DRM}}$ $I_{\text{RRM}}$	Peak Forward Reverse Blocking Current	$V_{\text{DRM}} = V_{\text{RRM}}, T_j = 25^\circ\text{C}$ $V_{\text{DRM}} = V_{\text{RRM}}, T_j = 125^\circ\text{C}$	Max.	5 2				$\mu\text{A}$ $\text{mA}$
$V_{\text{TM}}$	Peak On-State Voltage	$I_{\text{TM}} = 23.5\text{A}, t_p = 380\mu\text{s}$	Max.	1.55				V
$V_{\text{GD}}$	Q1-Q2-Q3 Non-Trigger Gate Voltage	$V_D = V_{\text{DRM}}, R_L = 3.3\text{ k}\Omega$ $T_j = 125^\circ\text{C}$	Min.	0.2				V
$V_{\text{GT}}$	Q1-Q2-Q3 Gate Trigger Voltage	$V_D = 12\text{V}, R_L = 33\Omega$	Max.	1.3				V
$I_{\text{GT}}$	Q1-Q2-Q3 Gate Trigger Current		Max.	5	10	35	50	$\text{mA}$
$I_{\text{H}}$	Q1-Q2-Q3 Holding Current	$I_T = 0.1\text{A}$	Max.	10	15	40	60	$\text{mA}$
$I_{\text{L}}$	Q1-Q3 Latching Current	$I_G = 1.2 I_{\text{GT}}$	Max.	15	20	50	70	$\text{mA}$
	Q2			25	35	60	80	
$dV/dt$	Critical Rate of Rise of Off-State Voltage	$V_D = 2/3V_{\text{DRM}}$ gate open $T_j = 125^\circ\text{C}$	Min.	20	40	500	1000	$\text{V}/\mu\text{s}$
$(dV/dt)_c$	Critical Rate of Change of Commutating Voltage	$(dI/dt)_c = -7\text{A/ms}$ $T_j = 125^\circ\text{C}$	Min.	0.5	1	10	25	$\text{V}/\mu\text{s}$
$R_{\text{th(j-c)}}$	Junction to case (AC)		Max.	1.1				$^\circ\text{C}/\text{W}$
$R_{\text{th(j-a)}}$	Junction to ambient		Max.	55				$^\circ\text{C}/\text{W}$

FIG.1: Triac quadrant are defined and the gate trigger test circuit



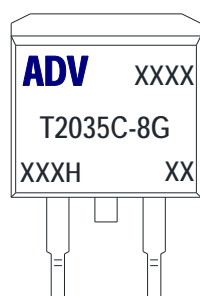
## PACKAGE MECHANICAL DATA

### TO-263-2 Package Dimension



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.400	4.700	0.173	0.185
A1	0.000	0.250	0.000	0.010
B	1.300	1.600	0.051	0.063
b	0.710	0.910	0.028	0.036
b1	1.170	1.400	0.046	0.055
c	0.310	0.550	0.012	0.022
c1	1.170	1.370	0.046	0.054
D	9.900	10.200	0.390	0.402
E	8.600	9.500	0.338	0.374
e	2.540 TYP		0.100 TYP	
L	14.700	15.800	0.579	0.622
L1	4.730	5.390	0.186	0.212
L2	2.500	3.300	0.098	0.130
L3		1.750		0.069

## Making Diagram



ADV:Logo  
T2035C-8G:Part number  
X:Internal control code  
H:Halogen Free

T 20 XX C - 8 G

T series thyristor  
Current:20=20A  
Gate trigger current:05=5mA  
10=10mA,35=35mA,50=50mA

Package explain:  
G=TO-263-2  
Voltage:6=600V,8=800V  
Quadrant:C=3Q

## Ordering information

Part number	Package	Marking	Packing	Quantity
T2035C-6G	TO-263-2	T2035C-6G	Tube	50pcs
			Embossed tape	800pcs
T2035C-8G	TO-263-2	T2035C-8G	Tube	50pcs
			Embossed tape	800pcs

Note: Gate Trigger Current Sensitivity and type05=5mA,10=10mA,35=35mA,50=50mA

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