

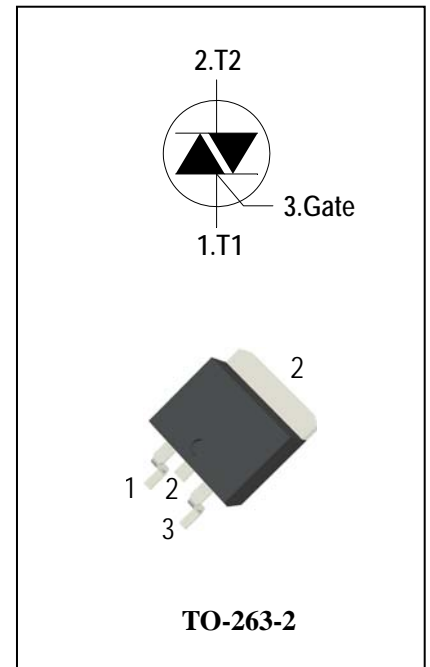
3 Quadrants Triacs

General Description

High current density due to mesa technology . the T1635C 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 ($I_{T(RMS)} = 16A$)
- ◆ High Commutation dv/dt
- ◆ These Devices are Pb-Free and are RoHS Compliant



Absolute Maximum Ratings

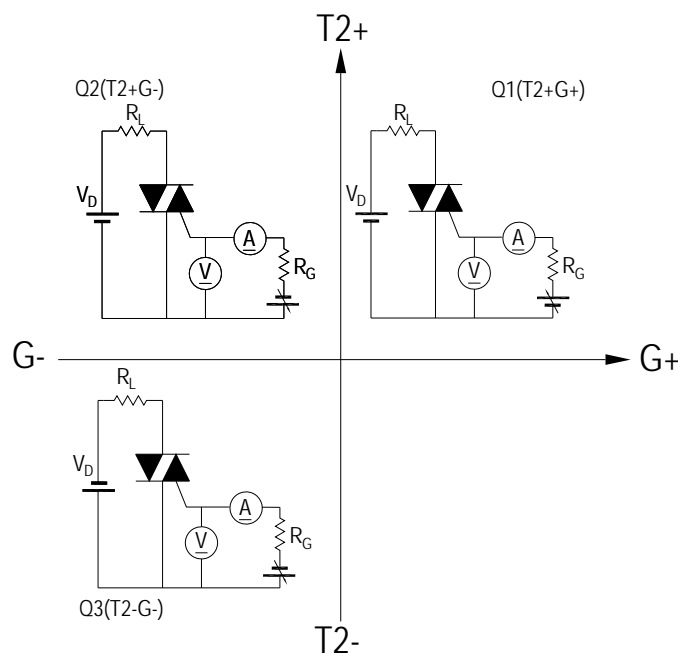
Symbol	Items	Conditions	Ratings	Unit
V_{DRM} V_{RRM}	Repetitive Peak Off-State Voltage	$T_j = 25^\circ C$	T16XXC-6G: 600 T16XXC-8G: 800	V
$I_{T(RMS)}$	R.M.S On-State Current	$T_c = 100^\circ C$	16	A
I_{TSM}	Surge On-State Current	$t_p = 20ms(50Hz) / t_p = 16.7ms(60Hz)$	160/168	A
I^2t	I^2t for fusing	$t_p = 10ms$	144	A^2s
di/dt	Critical rate of rise of on-state current	$F = 120 Hz$ $T_j = 125^\circ C$ $I_G = 2 \times I_{GT}$, $t_r \leq 100 ns$	50	$A/\mu s$
I_{GM}	Peak Gate Current	$t_p = 20 \mu s$ $T_j = 125^\circ C$	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	$^\circ C$



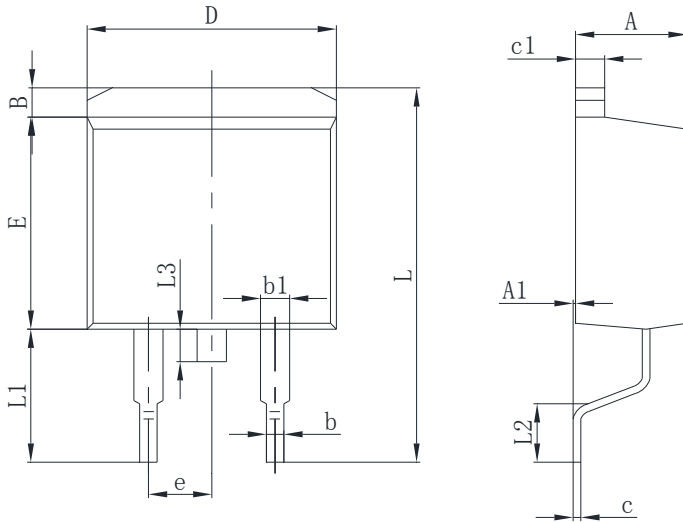
Electrical Characteristics (T_j = 25°C unless otherwise specified)

Symbol	Items		Conditions		T16XXC-6/8G				Unit
					T1605	T1610	T1635	T1650	
I _{DRM} I _{RRM}	Peak Forward Reverse Blocking Current		V _{DRM} = V _{RRM} , T _j = 25°C	Max.	5				uA
			V _{DRM} = V _{RRM} , T _j = 125°C		2				mA
V _{TM}	Peak On-State Voltage		I _{TM} = 22.5A, t _p = 380 μs	Max.	1.55				V
V _{GD}	Q1-Q2-Q3	Non-Trigger Gate Voltage	V _D = V _{DRM} R _L = 3.3 kΩ T _j = 125°C	Min.	0.2				V
V _{GT}	Q1-Q2-Q3	Gate Trigger Voltage	V _D = 12V , R _L = 33Ω	Max.	1.3				V
I _{GT}	Q1-Q2-Q3	Gate Trigger Current		Max.	5	10	35	50	mA
I _H	Q1-Q2-Q3	Holding Current	I _T = 0.1A	Max.	10	15	40	60	mA
I _L	Q1-Q3	Latching Current	I _G = 1.2 I _{GT}	Max.	15	20	50	70	mA
	Q2				25	35	60	80	
dV/dt	Critical Rate of Rise of Off-State Voltage		V _D = 2/3V _{DRM} gate open T _j = 125°C	Min.	20	40	500	1000	V/μs
(dV/dt) _c	Critical Rate of Change of Commutating Voltage		(dI/dt) _c = -7A/ms T _j = 125°C	Min.	0.5	1	10	25	V/μs
R _{th(j-c)}	Junction to case (AC)			Max.	1.2				°C/W
R _{th(j-a)}	Junction to ambient			Max.	60				°C/W

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

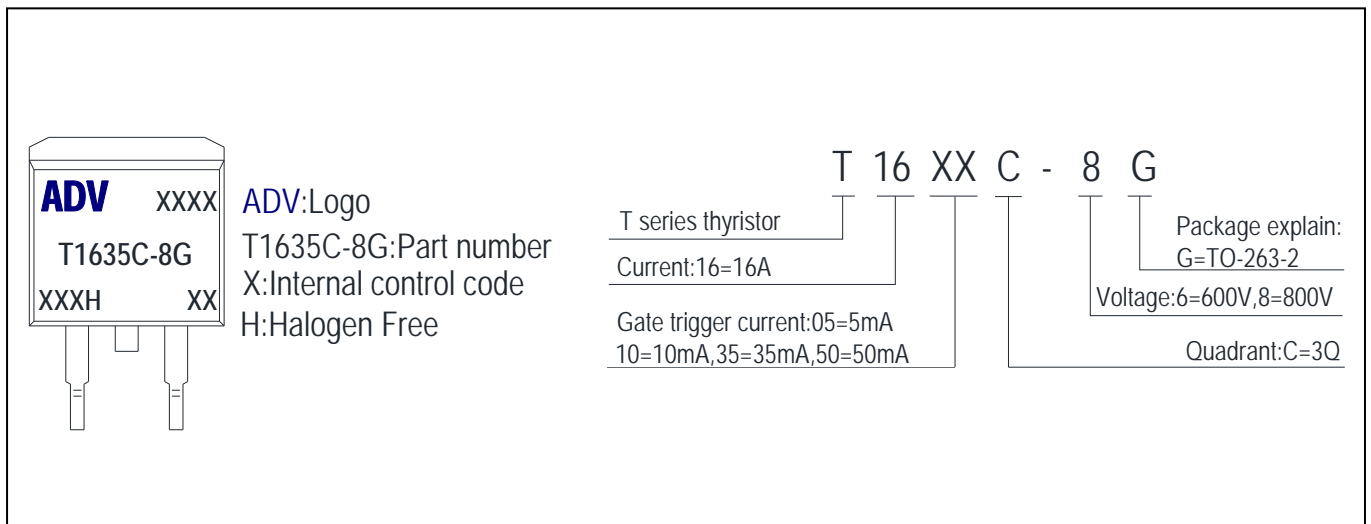


PACKAGE MECHANICAL DATA TO-263-2 Package Dimension



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



Ordering information

Part number	Package	Marking	Packing	Quantity
T1635C-6G	TO-263-2	T1635C-6G	Tube	50pcs
			Embossed tape	800pcs
T1635C-8G	TO-263-2	T1635C-8G	Tube	50pcs
			Embossed tape	800pcs

Note: Gate Trigger Current Sensitivity and type 05=5mA, 10=10mA, 35=35mA, 50=50mA

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