

Absolute Maximum Ratings — Standard Triac

Symbol	Parameter	Value	Unit
$I_{T(RMS)}$	RMS on-state current (full sine wave)	Qxx15Ly $T_C = 80^\circ\text{C}$	15 A
		Qxx15Ry Qxx15Ny $T_C = 90^\circ\text{C}$	
I_{TSM}	Non repetitive surge peak on-state current (full cycle, T_J initial = 25°C)	f = 50 Hz t = 20 ms	167 A
		f = 60 Hz t = 16.7 ms	200 A
I^2t	I^2t Value for fusing	$t_p = 8.3$ ms	166 A^2s
di/dt	Critical rate of rise of on-state current	f = 120 Hz $T_J = 125^\circ\text{C}$	100 $\text{A}/\mu\text{s}$
I_{GTM}	Peak gate trigger current	$t_p \leq 10 \mu\text{s}$ $I_{GT} \leq I_{GTM}$ $T_J = 125^\circ\text{C}$	2.0 A
$P_{G(AV)}$	Average gate power dissipation	$T_J = 125^\circ\text{C}$	0.5 W
T_{stg}	Storage temperature range		-40 to 150 $^\circ\text{C}$
T_J	Operating junction temperature range		-40 to 125 $^\circ\text{C}$

Note: xx = voltage, y = sensitivity

Absolute Maximum Ratings — Alternistor Triac (3 Quadrants)

Symbol	Parameter	Value	Unit
$I_{T(RMS)}$	RMS on-state current (full sine wave)	Qxx16LHy $T_C = 80^\circ\text{C}$	16 A
		Qxx16RHy Qxx16NHy $T_C = 90^\circ\text{C}$	
I_{TSM}	Non repetitive surge peak on-state current (full cycle, T_J initial = 25°C)	f = 50 Hz t = 20 ms	167 A
		f = 60 Hz t = 16.7 ms	200 A
I^2t	I^2t Value for fusing	$t_p = 8.3$ ms	166 A^2s
di/dt	Critical rate of rise of on-state current	f = 120 Hz $T_J = 125^\circ\text{C}$	100 $\text{A}/\mu\text{s}$
I_{GTM}	Peak gate trigger current	$t_p \leq 10 \mu\text{s}$; $I_{GT} \leq I_{GTM}$ $T_J = 125^\circ\text{C}$	2.0 A
$P_{G(AV)}$	Average gate power dissipation	$T_J = 125^\circ\text{C}$	0.5 W
T_{stg}	Storage temperature range		-40 to 150 $^\circ\text{C}$
T_J	Operating junction temperature range		-40 to 125 $^\circ\text{C}$

Note: xx = voltage, y = sensitivity

Electrical Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise specified) — Standard Triac

Symbol	Test Conditions	Quadrant	Value	Unit
I_{GT}	$V_D = 12\text{V}$ $R_L = 60 \Omega$	I – II – III	MAX.	50 mA
V_{GT}		I – II – III	MAX.	2.0 V
V_{GD}	$V_D = V_{DRM}$ $R_L = 3.3 \text{k}\Omega$ $T_J = 125^\circ\text{C}$	I – II – III	MIN.	0.2 V
I_H	$I_T = 100\text{mA}$		MAX.	70 mA
dv/dt	$V_D = V_{DRM}$ Gate Open $T_J = 125^\circ\text{C}$	400V	MIN.	275 $\text{V}/\mu\text{s}$
		600V		225 $\text{V}/\mu\text{s}$
		800V		200 $\text{V}/\mu\text{s}$
	$V_D = V_{DRM}$ Gate Open $T_J = 100^\circ\text{C}$	1000V		200 $\text{V}/\mu\text{s}$
(dv/dt)c	(di/dt)c = 8.1 A/ms $T_J = 125^\circ\text{C}$		MIN.	4 $\text{V}/\mu\text{s}$
t_{gt}	$I_G = 2 \times I_{GT}$ PW = 15 μs $I_T = 22.6 \text{A(pk)}$		TYP.	4 μs

