YENYO

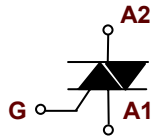
T1650 – 600 Series

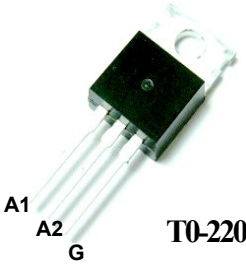
TRIAC

Main features

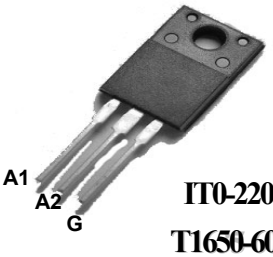
Symbol	Value	Unit
$I_{T(RMS)}$	16	A
V_{DRM}/V_{RRM}	600	V

I_{GT} 50mA





T0-220AB
T1650-600T



IT0-220AB
T1650-600TF

Description

The T1635 series is suitable for general purpose AC switching. They can be used as an ON/OFF function in application such as static relays, heating regulation, induction motor starting circuits or for phase control operation in light dimmers, motor speed controllers,…

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Absolute maximum ratings

Symbol	Parameter			Value	Unit
$I_{T(RMS)}$	RMS on-state current (full sine wave)			16	A
I_{TSM}	Non repetitive surge on-state current (full sine wave , Tj initial=25℃)	F = 50Hz	t = 20ms	160	A
		F = 60Hz	t = 16.7ms	168	
I^2T	I^2T Value for fusing	tp = 10ms		144	A^2s
dI/dt	Critical rate of rise of on-state current I_G = 2 x I_{GT} , tr ≦100ns	F = 120Hz	Tj = 25℃	50	A/us
I_{GM}	Peak gate current	tp = 20us	Tj = 25℃	4	A
$P_{G(AV)}$	Average gate power dissipation		Tj = 25℃	1	W
T_{stg} T_j	Storage junction temperature range Operating junction temperature range			-40 to +150 -40 to +110	℃

Electrical characteristics (Tj = 25℃, unless otherwise specified)

Symbol	Test conditions	Quadrant		Value	Unit
I_{GT}	V_D = 12V RL=100 ohm	I – II - III	MAX.	50	mA
V_{GT}		I – II - III	MAX.	1.3	V
V_{GD}	V_D=V_{DRM} RL=3.3k ohm Tj =125℃	I – II - III	MIN.	0.2	V
I_H			MAX.	45	mA
I_L		I - III	MAX.	50	mA
		II	MAX.	60	
dV/dt (1)	V_D = 67 % V_{DRM} gate open	Tj = 25℃	MIN.	500	V/us

Static characteristics

Symbol	Test conditions			Value	Unit
V_T (1)	ITM = 22.5A tp = 380 us	Tj = 25℃	MAX.	1.65	V
I_{DRM} I_{RRM}	V_{DRM}=V_{RRM}	Tj = 25℃	MAX.	5	uA

Note 1 : for both polarities of A2 referenced to A1

Figure 1: Maximum power dissipation versus RMS on-state current (full cycle)

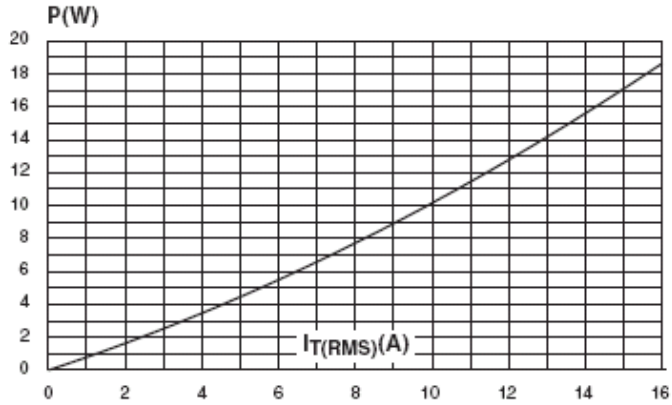

Figure 2: RMS on-state current versus case temperature (full cycle)

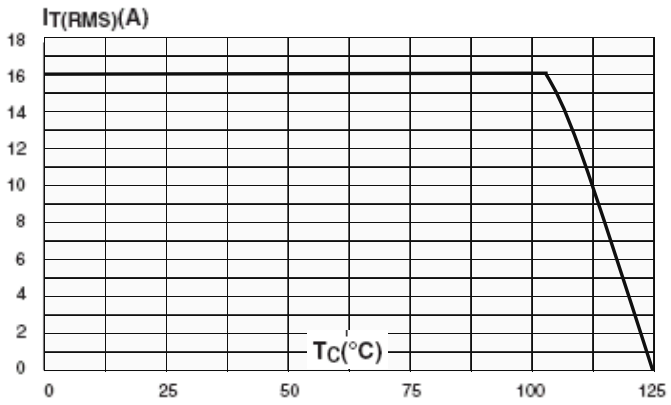

Figure 3: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness: 35µm) (full cycle)

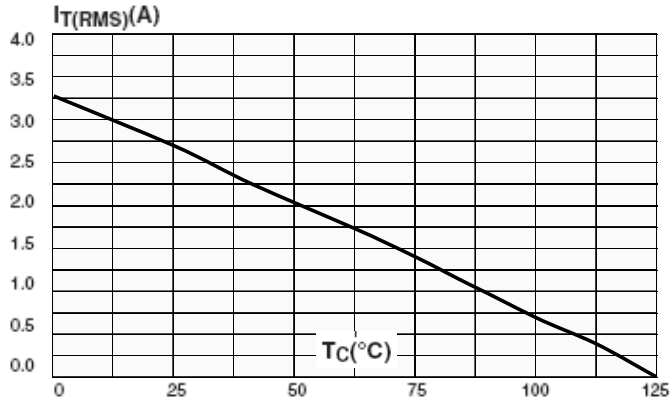

Figure 4: Relative variation of thermal impedance versus pulse duration

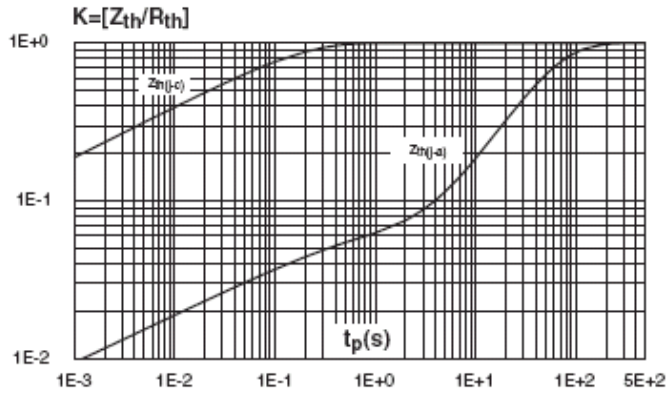

Figure 5: On-state characteristics (maximum values)

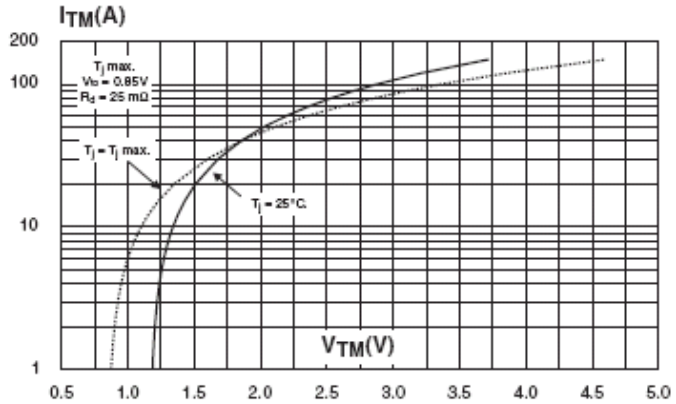

Figure 6: Surge peak on-state current versus number of cycles