

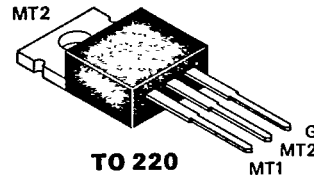
8834750 TAG SEMICONDUCTORS LTD

63C 00824 DT-25-15

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**T1213BH -  
T1213NH TRIACS**  
**12.0 A 200-800 V**  
**50/50/50/75 mA**

The T1213 series of TRIAC's are high performance glass passivated PNP devices. These parts are intended for general purpose applications where high gate insensitivity is required.



**Absolute Maximum Ratings**  $T_A = 25^\circ\text{C}$  unless otherwise noted

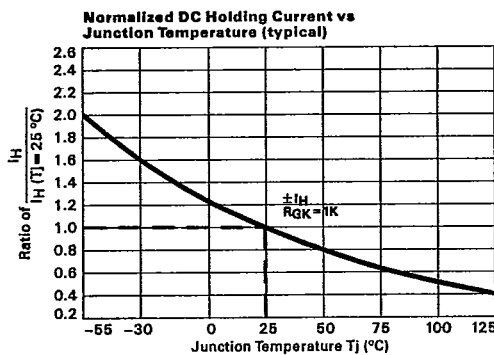
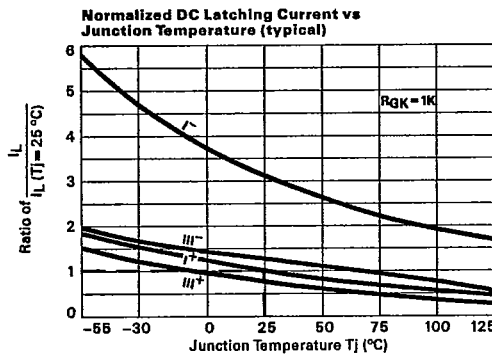
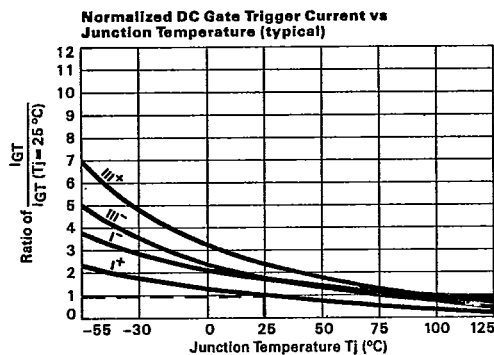
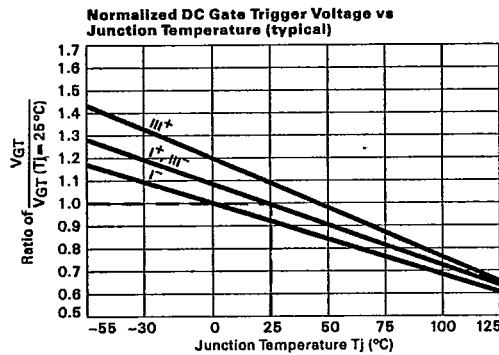
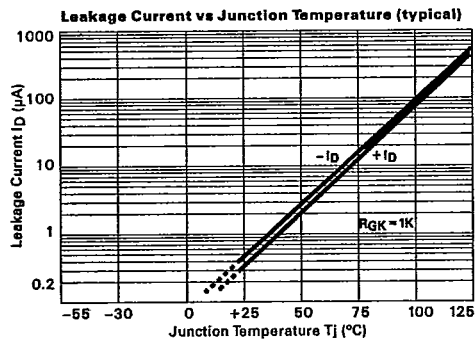
Parameter	Part Nr.	Symbol	Min.	Max.	Unit	Test Conditions
Repetitive Peak Off State Voltage	<b>T1213BH</b>	$V_{DRM}$	200		V	[ $T_j = -40^\circ\text{C}$ to $125^\circ\text{C}$ $R_{GK} = 1\text{K}\Omega$ ]
	<b>T1213DH</b>		400		V	
	<b>T1213MH</b>		600		V	
	<b>T1213NH</b>		800		V	
On-State Current		$I_{T(RMS)}$	12		A	All Conduction Angles $T_C = 85^\circ\text{C}$
Nonrept. On-State Current		$I_{TSM}$	120		A	Half Cycle, 60 Hz
Nonrept. On-State Current		$I_{TSM}$	110		A	Half Cycle, 50 Hz
Fusing Current		$I^2t$	60		$\text{A}^2\text{s}$	$t = 10\text{ ms}$
Peak Gate Current		$I_{GM}$	4		A	$10\mu\text{s}$ max.
Peak Gate Dissipation		$P_{GM}$	10		W	$10\mu\text{s}$ max.
Gate Dissipation		$P_{G(AV)}$	1		W	20 ms max.
Operating Temperature		$T_j$	-40	125	$^\circ\text{C}$	
Storage Temperature		$T_{stg}$	-40	125	$^\circ\text{C}$	
Soldering Temperature		$T_{sld}$		250	$^\circ\text{C}$	1.6 mm from case, 10 s max.

**Electrical Characteristics**  $T_A = 25^\circ\text{C}$  unless otherwise noted

Parameter	Symbol	Min.	Max.	Unit	Test Conditions
<b>T12</b> Off-State Leakage Current	$I_{DRM}$		2	mA	$V_D = V_{DRM}$ $R_{GK} = 1\text{K}\Omega$ $T_j = 125^\circ\text{C}$
Off-State Leakage Current	$I_{DRM}$		10	$\mu\text{A}$	$V_D = V_{DRM}$ $R_{GK} = 1\text{K}\Omega$ $T_j = 25^\circ\text{C}$
On-State Voltage	$V_T$		1.50	V	at $I_T = 18\text{ A}$ , $T_j = 25^\circ\text{C}$
On-State Threshold Voltage	$V_{T(TO)}$		0.95	V	$T_j = 125^\circ\text{C}$
On-State Slope Resistance	$r_T$		33	$\text{m}\Omega$	$T_j = 125^\circ\text{C}$
Gate Trigger Current	$I_{GT I+}$ (1)		50	mA	$V_D = 12\text{ V}$
	$I_{GT I-}$ (2)		50	mA	$V_D = 12\text{ V}$
	$I_{GT III-}$ (3)		50	mA	$V_D = 12\text{ V}$
	$I_{GT III+}$ (4)		75	mA	$V_D = 12\text{ V}$
Gate Trigger Voltage	$V_{GT}$	2.5		V	$V_D = 12\text{ V}$ All Quadrants
Holding Current	$I_H$		75	mA	$R_{GK} = 1\text{K}\Omega$
Critical Rate of Voltage Rise	$dv/dt$	500		$\text{V}/\mu\text{s}$	$V_D = .67 \times V_{DRM}$ $R_{GK} = 1\text{K}\Omega$ $T_j = 125^\circ\text{C}$
Critical Rate of Rise, Off-State	$dv/dt_c$	5		$\text{V}/\mu\text{s}$	$I_T = 12\text{ A}$ $di/dt = 5.3\text{ A/ms}$ $T_C = 85^\circ\text{C}$
Thermal Resistance junc. to case	$R_{\theta jc}$		2.5	K/W	
Thermal Resistance junc. to amb.	$R_{\theta ja}$		60	K/W	

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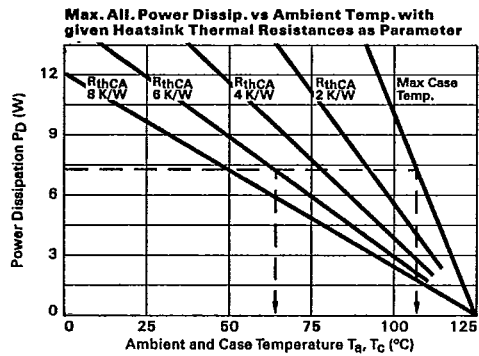
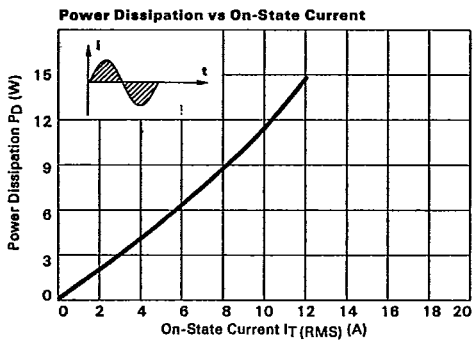
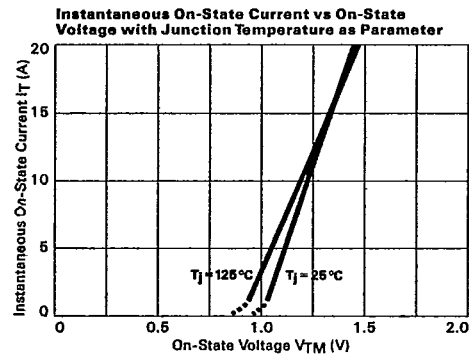
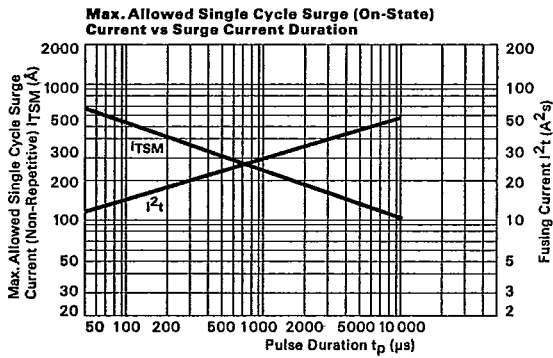
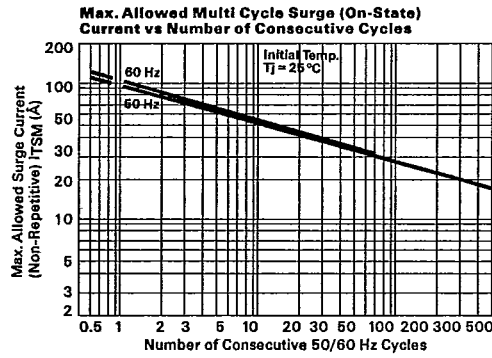
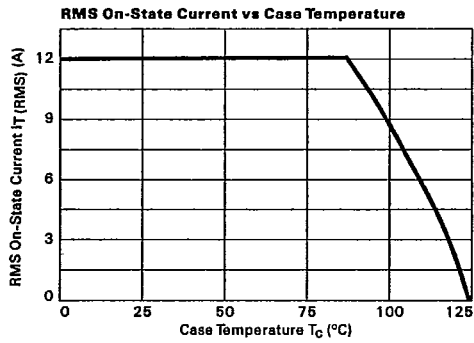
**Typical Characteristics  
T12 - Chips**



**T12**

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**Typical Characteristics  
T12 - Packaged Parts**



T12