



T2512BH – T2512NH TRIACS

25.0 A 200–800 V
50/50/50/50 mA

The T2512 series of TRIAC's are high performance glass passivated PNP devices. These parts are intended for very high current applications where moderate 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	T2512BH	V_{DRM}	200		V	$T_J = -40^\circ\text{C}$ to 125°C $R_{\text{GK}} = 1\text{K}\Omega$
	T2512DH		400		V	
	T2512MH		600		V	
	T2512NH		800		V	
On-State Current		$I_{\text{T(RMS)}}$	25		A	All Conduction Angles $T_C = 85^\circ\text{C}$
Nonrept. On-State Current		I_{TSM}	275		A	Half Cycle, 60 Hz
Nonrept. On-State Current		I_{TSM}	250		A	Half Cycle, 50 Hz
Fusing Current		I^2t	312		A^2s	$t = 10\text{ ms}$
Peak Gate Current		I_{GM}	4		A	10 μs max.
Peak Gate Dissipation		P_{GM}	10		W	10 μs max.
Gate Dissipation		$P_{\text{G(AV)}}$	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_{slid}		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
Off-State Leakage Current	I_{DRM}		3	mA	$V_D = V_{\text{DRM}}$ $R_{\text{GK}} = 1\text{K}\Omega$ $T_J = 125^\circ\text{C}$
Off-State Leakage Current	I_{DRM}		10	μA	$V_D = V_{\text{DRM}}$ $R_{\text{GK}} = 1\text{K}\Omega$ $T_J = 25^\circ\text{C}$
On-State Voltage	V_T		1.4	V	at $I_T = 37.5\text{ A}$, $T_J = 25^\circ\text{C}$
On-State Threshold Voltage	$V_{\text{T(TO)}}$		0.85	V	$T_J = 125^\circ\text{C}$
On-State Slope Resistance	r_T		13	m Ω	$T_J = 125^\circ\text{C}$
Gate Trigger Current	$I_{\text{GT I}} + (1)$		50	mA	$V_D = 12\text{ V}$
	$I_{\text{GT I}} - (2)$		50	mA	$V_D = 12\text{ V}$
	$I_{\text{GT III}} - (3)$		50	mA	$V_D = 12\text{ V}$
	$I_{\text{GT III}} + (4)$		50	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		50	mA	$R_{\text{GK}} = 1\text{K}\Omega$
Critical Rate of Voltage Rise	dv/dt	500		V/ μs	$V_D = .67 \times V_{\text{DRM}}$ $R_{\text{GK}} = 1\text{K}\Omega$ $T_J = 125^\circ\text{C}$
Critical Rate of Rise, Off-State	dv/dt_c	5		V/ μs	$I_T = 25\text{ A}$ $di/dt = 11\text{ A/ms}$ $T_C = 85^\circ\text{C}$
Thermal Resistance junc. to case	$R_{\theta\text{JC}}$		1.5	K/W	
Thermal Resistance junc. to amb.	$R_{\theta\text{JA}}$		60	K/W	