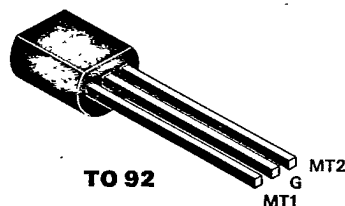


TAG SEMICONDUCTORS LTD


**Z0102BA -
Z0102NA TRIACS**
**1.0 A 200-800 V
3/3/3/3 mA**

The Z0102 series of TRIAC's are high performance PNP devices diffused with TAG's proprietary Top Glass™ Process. These parts are intended for general purpose applications where logic compatible gate sensitivity 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	Z0102BA	V_{DRM}	200		V	$T_J = -40^\circ\text{C}$ to 125°C $R_{GK} = 1\text{K}\Omega$
	Z0102DA		400		V	
	Z0102MA		600		V	
	Z0102NA		800		V	
On-State Current		$I_T(RMS)$	0.8		A	All Conduction Angles $T_C = 50^\circ\text{C}$
Nonrept. On-State Current		I_{TSM}	22		A	Half Cycle, 60 Hz
Nonrept. On-State Current		I_{TSM}	20		A	Half Cycle, 50 Hz
Fusing Current		I^2t	2		A^2s	$t = 10\text{ ms}$
Peak Reverse Gate Voltage		V_{GRM}	8		V	
Peak Gate Current		I_{GM}	1.2		A	$10\mu\text{s}$ max.
Peak Gate Dissipation		P_{GM}	3		W	$10\mu\text{s}$ max.
Gate Dissipation		$P_{G(AV)}$	0.2		W	20 ms max.
Operating Temperature		T_J	-40	125	$^\circ\text{C}$	
Storage Temperature		T_{stg}	-40	150	$^\circ\text{C}$	
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
Off-State Leakage Current	I_{DRM}		200	μA	$V_D = V_{DRM}$ $R_{GK} = 1\text{K}\Omega$ $T_J = 125^\circ\text{C}$
Off-State Leakage Current	I_{DRM}		5	μA	$V_D = V_{DRM}$ $R_{GK} = 1\text{K}\Omega$ $T_J = 25^\circ\text{C}$
On-State Voltage	V_T		1.26	V	at $I_T = 1.2\text{ A}$, $T_J = 25^\circ\text{C}$
On-State Threshold Voltage	$V_{T(TO)}$		0.95	V	$T_J = 125^\circ\text{C}$
On-State Slope Resistance	r_T		200	$\text{m}\Omega$	$T_J = 125^\circ\text{C}$
Gate Trigger Current	$I_{GT I+}$ (1)		3	mA	$V_D = 12\text{ V}$
	$I_{GT I-}$ (2)		3	mA	$V_D = 12\text{ V}$
	$I_{GT III-}$ (3)		3	mA	$V_D = 12\text{ V}$
	$I_{GT III+}$ (4)		3	mA	$V_D = 12\text{ V}$
Gate Trigger Voltage	V_{GT}		2	V	$V_D = 12\text{ V}$ All Quadrants
Holding Current	I_H		3	mA	$R_{GK} = 1\text{K}\Omega$
Critical Rate of Voltage Rise	dv/dt	30		$\text{V}/\mu\text{s}$	$V_D = .67 \times V_{DRM}$ $R_{GK} = 1\text{K}\Omega$ $T_J = 125^\circ\text{C}$
Critical Rate of Rise, Off-State	dv/dt_c	1		$\text{V}/\mu\text{s}$	$I_T = 0.8\text{ A}$ $di/dt = 0.35\text{ A/ms}$ $T_C = 50^\circ\text{C}$
Gate Controlled Delay Time	t_{gd}		2.5	μs	$I_G = 15\text{ mA}$ $di_g/dt = 0.15\text{ A}/\mu\text{s}$
Thermal Resistance junc. to case	$R_{\theta jc}$		90	K/W	
Thermal Resistance junc. to amb.	$R_{\theta ja}$		180	K/W	

Z01