



**TXN/TYN 0512 --->
 TXN/TYN 1012**

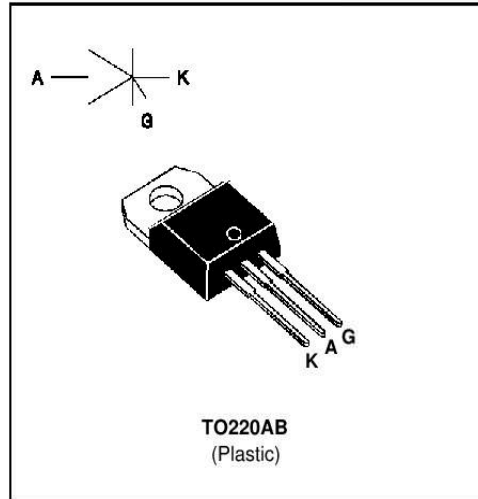
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FEATURES

- HIGH SURGE CAPABILITY
- HIGH ON-STATE CURRENT
- HIGH STABILITY AND RELIABILITY
- TXN Serie :
 INSULATED VOLTAGE = 2500V_(RMS)
 (UL RECOGNIZED : E81734)

DESCRIPTION

The TYN/TXN 0512 ---> TYN/TXN 1012 Family of Silicon Controlled Rectifiers uses a high performance glass passivated technology. This general purpose Family of Silicon Controlled Rectifiers is designed for power supplies up to 400Hz on resistive or inductive load.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit
$I_T(RMS)$	RMS on-state current (180° conduction angle)	TXN TYN T _c =80°C T _c =90°C	12 A
$I_T(AV)$	Average on-state current (180° conduction angle, single phase circuit)	TXN TYN T _c =80°C T _c =90°C	8 A
I_{TSM}	Non repetitive surge peak on-state current (T _j initial = 25°C)	tp=8.3 ms	125 A
		tp=10 ms	120
I^2t	I^2t value	tp=10 ms	72 A ² s
di/dt	Critical rate of rise of on-state current Gate supply : I _G = 100 mA di _G /dt = 1 A/μs		100 A/μs
T _{stg} T _J	Storage and operating junction temperature range		- 40 to + 150 °C - 40 to + 125 °C
T _I	Maximum lead temperature for soldering during 10 s at 4.5 mm from case		260 °C

Symbol	Parameter	TYN/TXN							Unit
		0512	112	212	412	612	812	1012	
V _{DRM} V _{RIRM}	Repetitive peak off-state voltage T _j = 125 °C	50	100	200	400	600	800	1000	V

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THERMAL RESISTANCES

Symbol	Parameter	Value	Unit	
Rth (j-a)	Junction to ambient	60	°C/W	
Rth (j-c) DC	Junction to case for DC	TXN	3.5	°C/W
		TYN	2.5	

GATE CHARACTERISTICS (maximum values)

P_G (AV) = 1W P_{GM} = 10W (tp = 20 μs) I_{FGM} = 4A (tp = 20 μs) V_{RGM} = 5 V.

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions	Value	Unit	
I_{GT}	$V_D=12V$ (DC) $R_L=33\Omega$ $T_j=25^\circ C$	MAX	15	mA
V_{GT}	$V_D=12V$ (DC) $R_L=33\Omega$ $T_j=25^\circ C$	MAX	1.5	V
V_{GD}	$V_D=V_{DRM}$ $R_L=3.3k\Omega$ $T_j=125^\circ C$	MIN	0.2	V
tgt	$V_D=V_{DRM}$ $I_G = 40mA$ $dI_G/dt = 0.5A/\mu s$ $T_j=25^\circ C$	TYP	2	μs
I_L	$I_G= 1.2 I_{GT}$ $T_j=25^\circ C$	TYP	50	mA
I_H	$I_T= 100mA$ gate open $T_j=25^\circ C$	MAX	30	mA
V_{TM}	$I_{TM}= 24A$ tp= 380μs $T_j=25^\circ C$	MAX	1.6	V
I_{DRM} I_{RRM}	V_{DRM} Rated V_{RRM} Rated $T_j=25^\circ C$	MAX	0.01	mA
		$T_j=125^\circ C$	3	
dV/dt	Linear slope up to $V_D=67\%V_{DRM}$ gate open $T_j=125^\circ C$	MIN	200	V/μs
tq	$V_D=67\%V_{DRM}$ $I_{TM}= 24A$ $V_R= 25V$ $dI_{TM}/dt=30 A/\mu s$ $dV_D/dt= 50V/\mu s$ $T_j=125^\circ C$	TYP	70	μs

