

TXN/TYN 058 (G) ---> TXN/TYN 1008 (G)

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FEATURES

■ HIGH SURGE CAPABILITY

■ HIGH ON-STATE CURRENT

HIGH STABILITY AND RELIABILITY

■ TXN Serie:

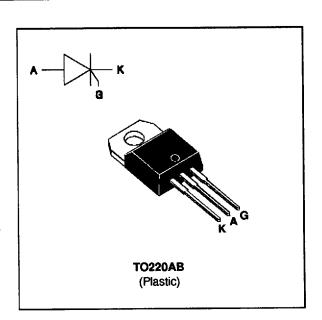
INSULATED VOLTAGE = 2500V(RMS)

(UL RECOGNIZED : E81734)

DESCRIPTION

The TYN/TXN 058 ---> TYN/TXN 1008 Family of Silicon Controlled Rectifiers uses a high performance glass passivated chips 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	Tc=100°C Tc=105°C	8	Α
lT(AV)	Average on-state current (180° conduction angle, single phase circuit)	5	Α		
ITSM	ITSM Non repetitive surge peak on-state current tp=		tp=8.3 ms	84	A
	(Tj initial = 25°C)	25°C)		80	
l ² t	12t value tp=10 ms			32	A ² s
di/dt	Critical rate of rise of on-state current Gate supply: IG = 100 mA dig/dt = 1 A/µs			50	A/µs
Tstg Tj	Storage and operating junction temperature range			- 40 to + 150 - 40 to + 125	•C •C
П	Maximum lead temperature for soldering during 10 s at 4.5 mm from case			260	•C

Symbol	Parameter	TYN/TXN						Unit	
		058	108	208	408	608	808	1008	
VDRM VRRM	Repetitive peak off-state voltage Tj = 125 °C	50	100	200	400	600	800	1000	>

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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)

PG (AV) = 1W PGM = 10W (tp = 20 μ s) IFGM = 4A (tp = 20 μ s) VRGM = 5 V.

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions			Value		Unit	
				BLANK	G		
IGT	V _D =12V (DC) R _L =33Ω	Tj=25°C	MAX	15	25	mA	
Vgт	V _D =12V (DC) R _L =33Ω	Tj=25°C	MAX	1.5		V	
V _{GD}	V _D =V _{DRM} R _L =3.3kΩ	Tj= 110°C	MIN	0.2		V	
tgt	V _D =V _{DRM} I _G = 40mA		TYP	2		μs	
IL.	IG= 1.2 IGT	Tj=25°C	TYP	50		mA	
lΗ	IT= 100mA gate open	Tj=25°C	MAX	30	45	mA	
Vтм	ITM= 16A tp= 380µs		MAX	1.8		V	
IDRM	VDRM Rated	Tj=25°C	мах	0.01		mA	
IRRM	V _{RRM} Rated			2			
dV/dt	Linear slope up to VD=67%VDRM Tj=		MIN	200	500	V/µs	
tq	V _D =67%V _{DRM}	Tj= 110°C	TYP	70		μs	

Package	IT(RMS)	V _{DRM} / V _{RRM}	Sensitivity Sp	nsitivity Specification	
	Α	V	BLANK	G	
TXN	8	50	Χ	Х	
(Insulated)		100	Х	X	
		200	Χ	X	
		400	Χ	Х	
		600	Х	Χ	
		800	Х	X	
		1000	Χ	X	
TYN		50	X	X	
(Uninsulated)		100	Х	Х	
		200	Χ	X	
		400	Х	Х	
		600	Х	X	
		800	Х	Х	
		1000	Х	X	

Fig.1: Maximum average power dissipation versus average on-state current (TXN).

Fig.2: Correlation between maximum average power dissipation and maximum allowable temperatures (T_{amb} and T_{case}) for different thermal resistances heatsink + contact (TXN).

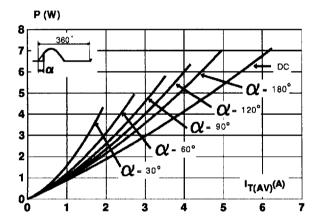


Fig.3: Maximum average power dissipation versus average on-state current (TYN).

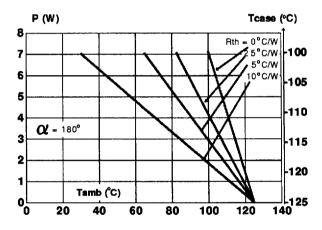
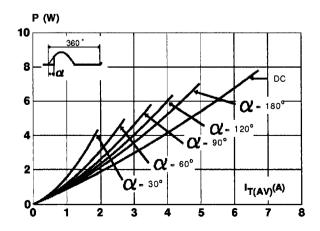
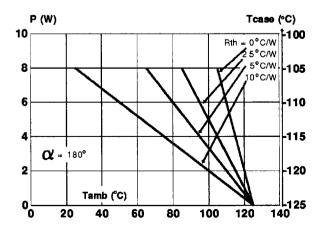


Fig.4: Correlation between maximum average power dissipation and maximum allowable temperatures (T_{amb} and T_{case}) for different thermal resistances heatsink + contact (TYN).





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Fig.5 : Average on-state current versus case temperature (TXN).

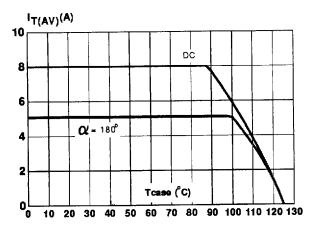


Fig.7: Relative variation of thermal impedance versus pulse duration.

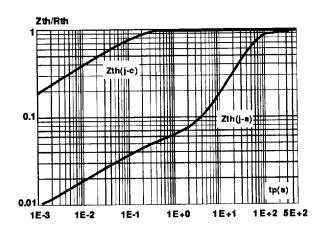


Fig.9: Non repetitive surge peak on-state current versus number of cycles.

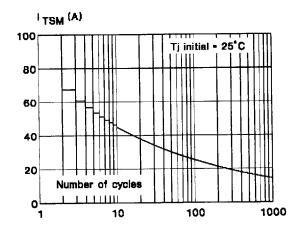


Fig.6: Average on-state current versus case temperature (TYN).

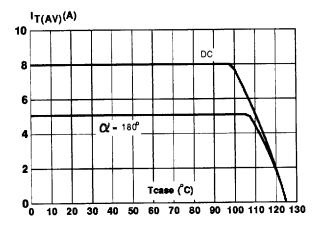


Fig.8: Relative variation of gate trigger current versus junction temperature.

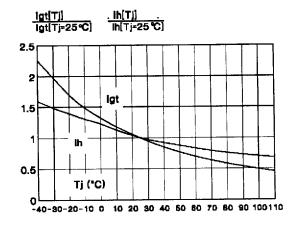
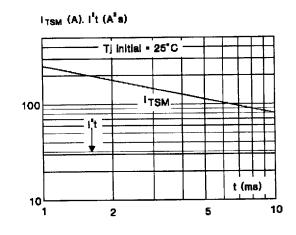


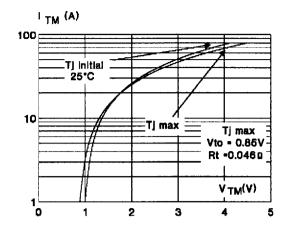
Fig.10: Non repetitive surge peak on-state current for a sinusoidal pulse with width: t ≤ 10 ms, and corresponding value of 12t.



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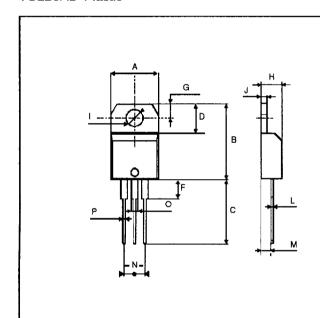
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Fig.11: On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA

TO220AB Plastic



REF.	DIMENSIONS					
	Millimeters		Inches			
	Min. Max.		Min.	Max.		
Α	10.00	10.40	0.393	0.409		
В	15.20	15.90	0.598	0.625		
С	13.00	14.00	0.511	0.551		
D	6.20	6.60	0.244	0.259		
F	3.50	4.20	0.137	0.165		
G	2.65	2.95	0.104	0.116		
Η	4.40	4.60	0.173	0.181		
	3.75	3.85	0.147	0.151		
J	1.23	1.32	0.048	0.051		
L	0.49	0.70	0.019	0.027		
М	2.40	2.72	0.094	0.107		
N	4.80	5.40	0.188	0.212		
0	1.14	1.70	0.044	0.066		
Р	0.61	0.88	0.024	0.034		

Cooling method: C Marking: type number Weight: 2.3 g Recommended torque value : 0.8 m.N. Maximum torque value : 1 m.N.

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