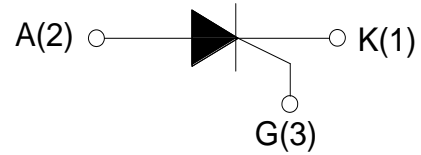
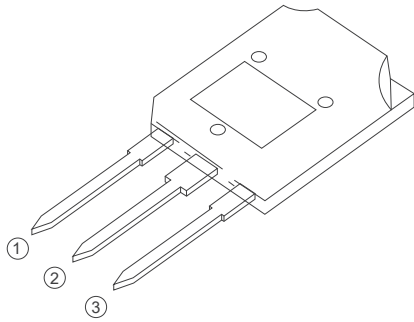


TYN8012 Series
80A SCRs
Standard SCRs



TO-247S

FEATURES

> IT(RMS):80A > VGT: 1.5V > VDRM VRRM:1200Vand1600V

APPLICATIONS

Washing machine,vacuums, massager,solid state relay , AC Motor speed regulation and so on.

Absolute Maximum Ratings (Tj=25°C unless otherwise specified)

Symbol	Parameter	Conditions	Ratings	Unit
VDRM VRRM	Repetitive Peak Off-State Voltage	TYN8012	1200	V
		TYN8016	1600	V
IT(RMS)	R.M.S On-State Current		80	A
ITSM	Surge On-State Current	F=50Hz, tp=10ms/8.3ms	800	A
I ² t	I ² t for fusing	Tp=10ms	7800	A ² s
PG(AV)	Average Gate Power Dissipation	Tj=125°C	1	W
PGM	Peak Gate Current	Tj=125°C	5	W
IGM	Peak Gate Current	tp=10us	4	A
Tj	Operating Junction Temperature		~40~125	°C
TSTG	Storage Temperature		~40~150	°C

Electrical Characteristics ($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Value	Unit
IDRM	Repetitive Peak Off-State Current	$T_c=25^\circ\text{C}$	≤ 50	μA
		$T_c=125^\circ\text{C}$	≤ 10	mA
IRRM	Repetitive Peak Reverse Current	$T_c=25^\circ\text{C}$	≤ 50	μA
		$T_c=125^\circ\text{C}$	≤ 10	mA
VTM	Forward "on" voltage	$I_T=100\text{A}$ $t_p=380\mu\text{s}$	≤ 1.8	V
VGD	Gate nontrigger voltage	$V_D=V_{DRM}$, $T_j=125^\circ\text{C}$, $R_L=3.3\text{K}\Omega$	≥ 0.25	V
IL	Latching current	$I_G=1.2I_{GT}$	≤ 200	mA
IH	Holding current	$V_D=12\text{V}$, $I_{GT}=0.1\text{A}$	≤ 150	mA
VGT	Gate trigger voltage	$V_D=12\text{V}$	≤ 1.5	V
IGT	Gate trigger current	$V_D=12\text{V}$, $I_T=0.1\text{A}$	≤ 80	mA
dv/dt	Critical-rate of rise of commutation voltage	$V_D=2/3V_{DRM}$, $T_j=125^\circ\text{C}$, gate open circuit	≥ 1000	$\text{V}/\mu\text{s}$
di/dt	Critical-rate of rise of commutation current	$I_G=2X I_G$, $t_r=100\mu\text{s}$, $T_j=125^\circ\text{C}$	≥ 150	$\text{A}/\mu\text{s}$
Rth(j-c)	Thermal resistance	Junction to case	0.43	$^\circ\text{C}/\text{W}$

FIG1

Maximum power dissipation versus RMS on-state current

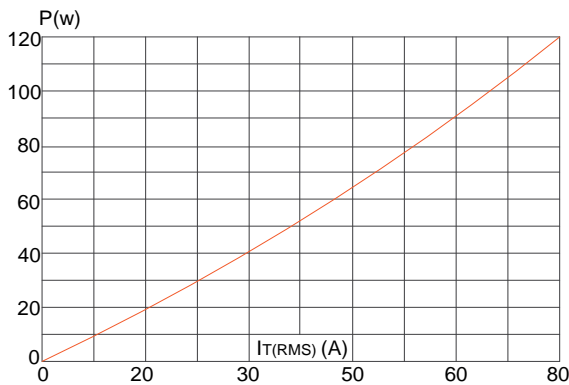


FIG2

RMS on-state current versus case temperature

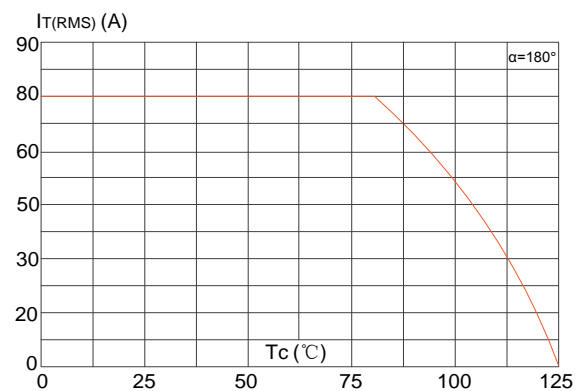


FIG3

Surge peak on-state current versus number of cycles

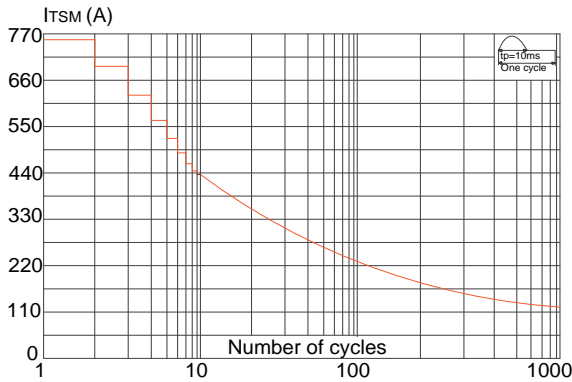


FIG4

On-state characteristics (maximum values)

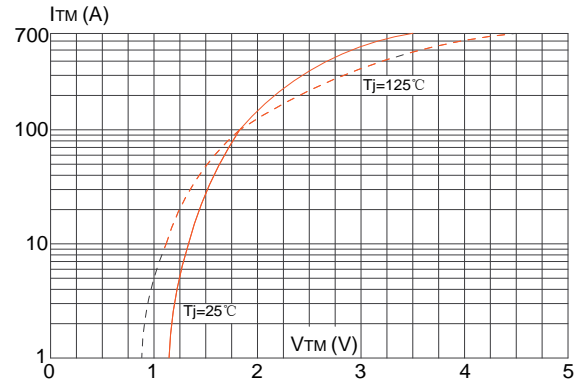


FIG5

Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of I^2t ($di/dt < 100A/\mu s$)

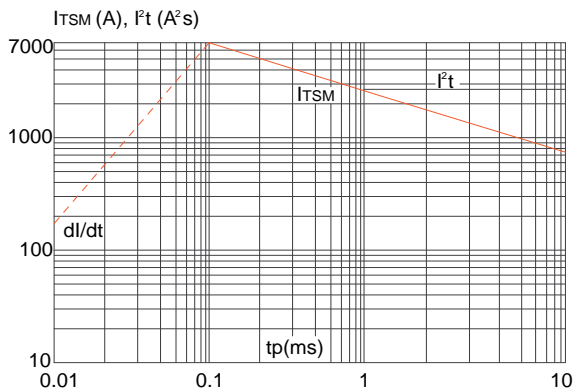
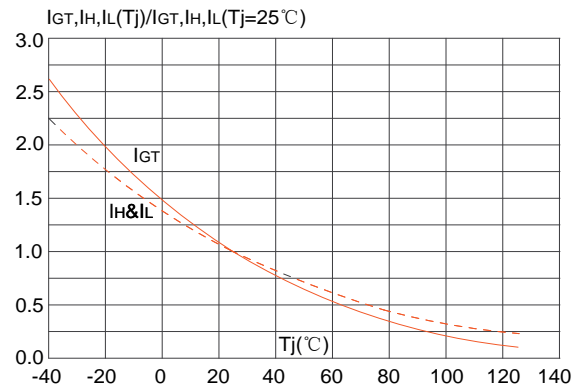
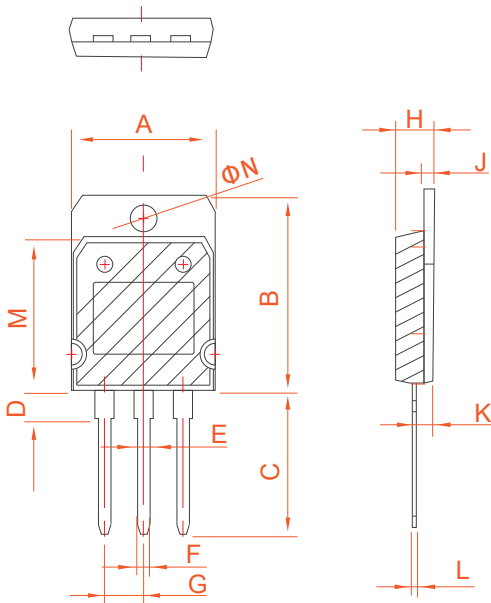


FIG6

Relative variations of gate trigger current, holding current and latching current versus junction temperature



PACKAGE MECHANICAL DATA



ITO-247 (Ins)

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	19.7	19.9	20.1	0.776	0.783	0.791
B	26.9	27.1	27.3	1.059	1.067	1.075
C	19.4	19.9	20.4	0.764	0.783	0.803
D	3.80	3.90	4.00	0.150	0.154	0.157
E	2.56	2.66	2.76	0.101	0.105	0.109
F	1.66	1.76	1.86	0.065	0.069	0.073
G		5.45			0.215	
H	5.05	5.10	5.50	0.199	0.201	0.217
J	1.45	1.50	1.55	0.057	0.059	0.061
K	2.20	2.30	2.40	0.087	0.091	0.094
L	0.60	0.70	0.80	0.024	0.028	0.031
M	21.2	21.3	21.4	0.835	0.839	0.843
N	3.20	3.30	3.40	0.126	0.130	0.134

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