

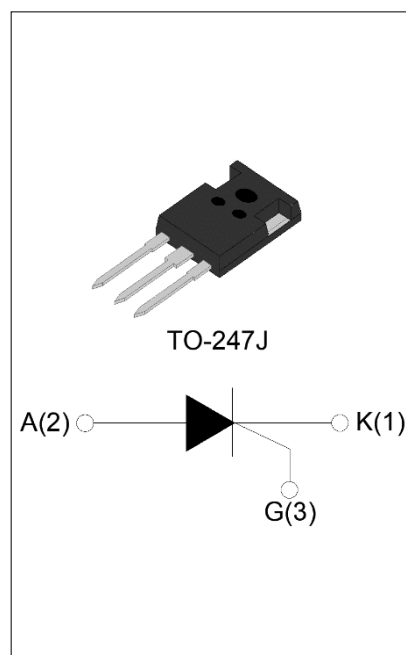


DESCRIPTION:

With high ability to withstand the shock loading of large current, TYN80H-1200SJ SCR provides high dV/dt rate with strong resistance to electromagnetic interference. It is especially recommended for use on solid state relay, UPS, SVC, power charger, T-tools etc, Package TO-247J is RoHS compliant.

MAIN FEATURES

Symbol	Value	Unit
$I_{T(AV)}$	80	A
V_{DRM}/V_{RRM}	1200	V
I_{GT}	10-80	mA



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	$^{\circ}C$
Operating junction temperature range	T_j	-40-150	$^{\circ}C$
Operating temperature range	T_{op}	-40-125	$^{\circ}C$
Repetitive peak off-state voltage ($T_j=25^{\circ}C$)	V_{DRM}	1200	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	1200	V
Average on-state current ($T_c \leq 79^{\circ}C$)	$I_{T(AV)}$	80	A
RMS on-state current ($T_c \leq 79^{\circ}C$)	$I_{T(RMS)}$	126	A
Non repetitive surge peak on-state current ($t_p=10ms$, $T_j=25^{\circ}C$)	I_{TSM}	1000	A
Non repetitive surge peak on-state current ($t_p=8.3ms$, $T_j=25^{\circ}C$)		1100	
I^2t value for fusing ($t_p=10ms$, $T_j=25^{\circ}C$)	I^2t	5000	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$, $f=100Hz$, $T_j=150^{\circ}C$)	di/dt	200	$A/\mu s$
Peak gate current ($t_p=20\mu s$, $T_j=150^{\circ}C$)	I_{GM}	12	A

Average gate power dissipation ($T_j=150^{\circ}\text{C}$)	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	22	W
Peak pulse voltage ($T_j=25^{\circ}\text{C}$; non-repetitive, off-state; FIG.7)	V_{pp}	1	kV

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

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	10	-	80	mA
V_{GT}		-	-	1.2	V
V_{GD}	$V_D=V_{DRM} T_j=150^{\circ}\text{C } R_L=3.3\text{k}\Omega$	0.2	-	-	V
I_L	$I_G=1.2I_{GT}$	-	-	250	mA
I_H	$I_T=500\text{mA}$	-	-	200	mA
dV/dt	$V_D=800\text{V}$ Gate Open $T_j=150^{\circ}\text{C}$	2000	-	-	V/ μs
t_{on}	$I_G=100\text{mA } I_A=1\text{A } I_R=100\text{mA}$ $T_j=25^{\circ}\text{C}$	-	10	-	μs
t_{off}		-	150	-	

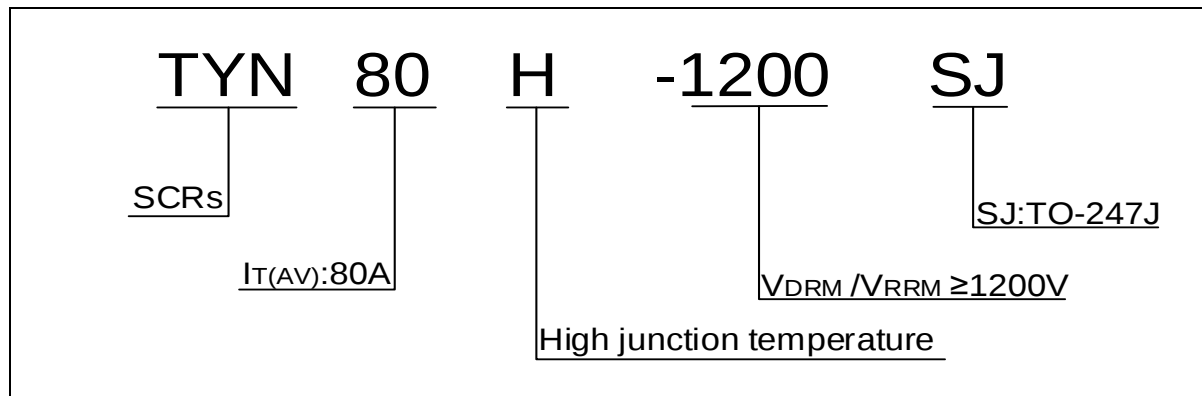
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=120\text{A } t_p=380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.6	V
V_{TO}	Threshold voltage	$T_j=150^{\circ}\text{C}$	0.7	V
R_D	Dynamic resistance	$T_j=150^{\circ}\text{C}$	6.6	$\text{m}\Omega$
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25^{\circ}\text{C}$	10	μA
I_{RRM}		$T_j=150^{\circ}\text{C}$	8	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	0.35	$^{\circ}\text{C/W}$
$R_{th(j-a)}$	junction to ambient (DC)	50	$^{\circ}\text{C/W}$

ORDERING INFORMATION



MARKING

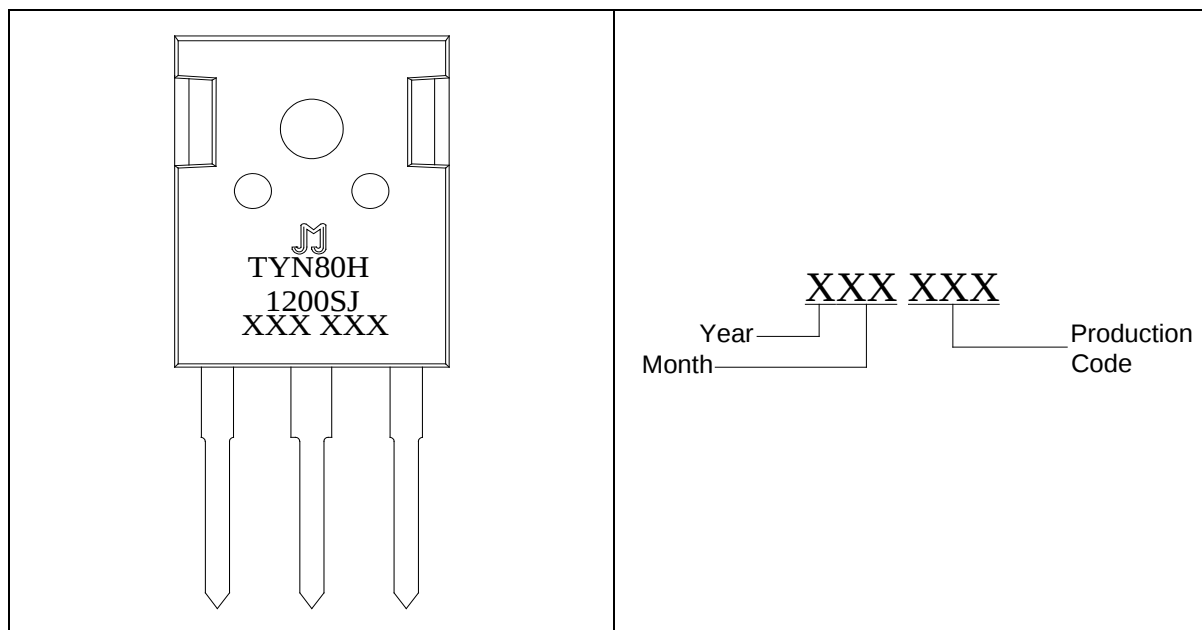


FIG.1: Maximum power dissipation versus RMS on-state current

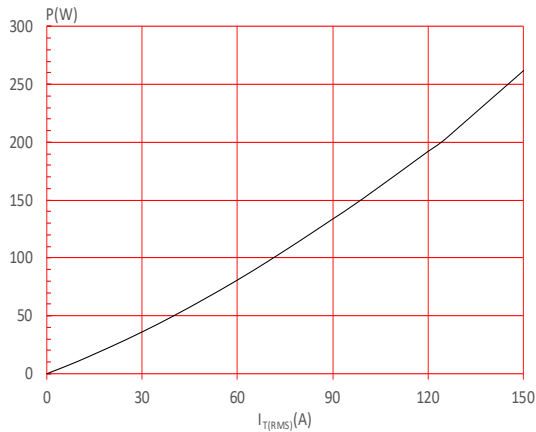


FIG.3: Surge peak on-state current versus number of cycles

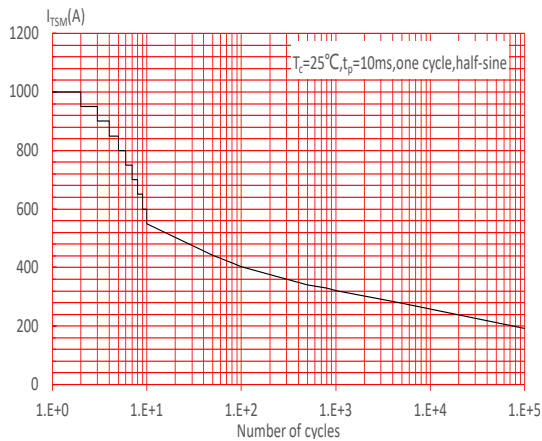


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of I^2t ($di/dt < 200\text{A}/\mu\text{s}$)

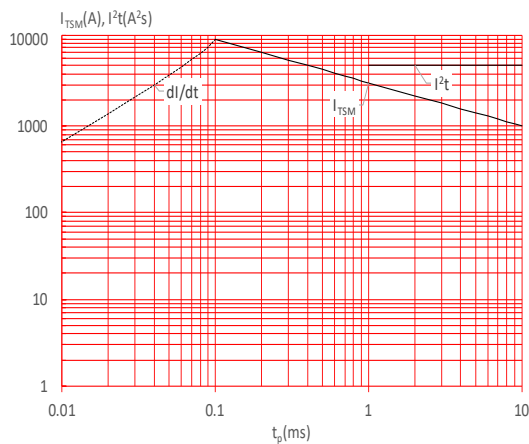


FIG.2: RMS on-state current versus case temperature

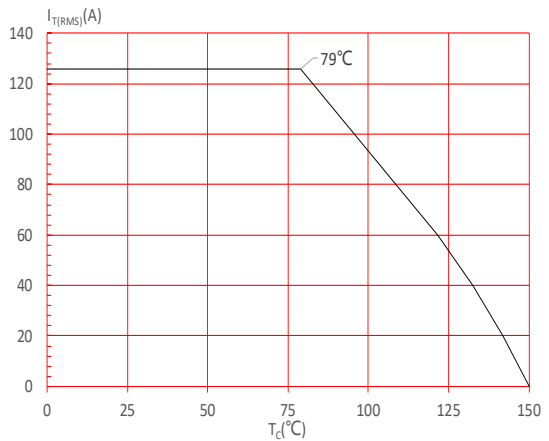


FIG.4: On-state characteristics

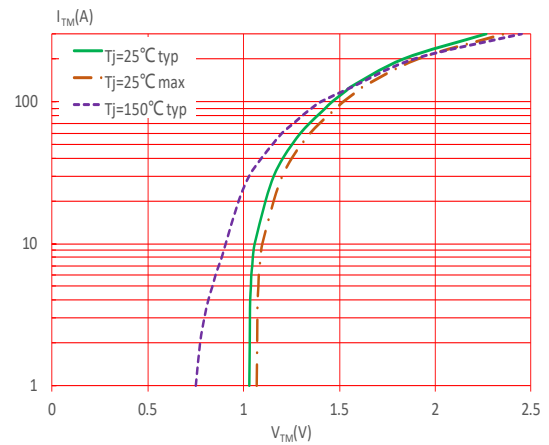


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

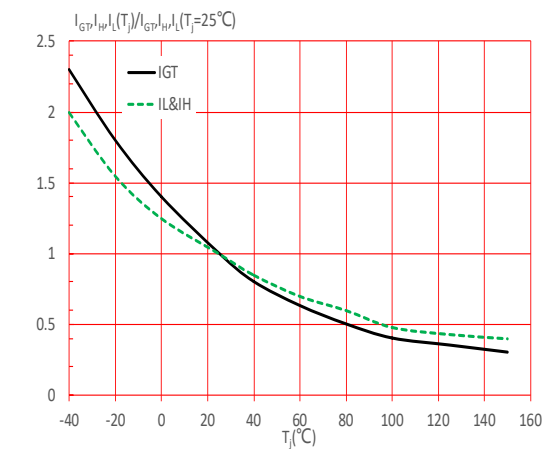
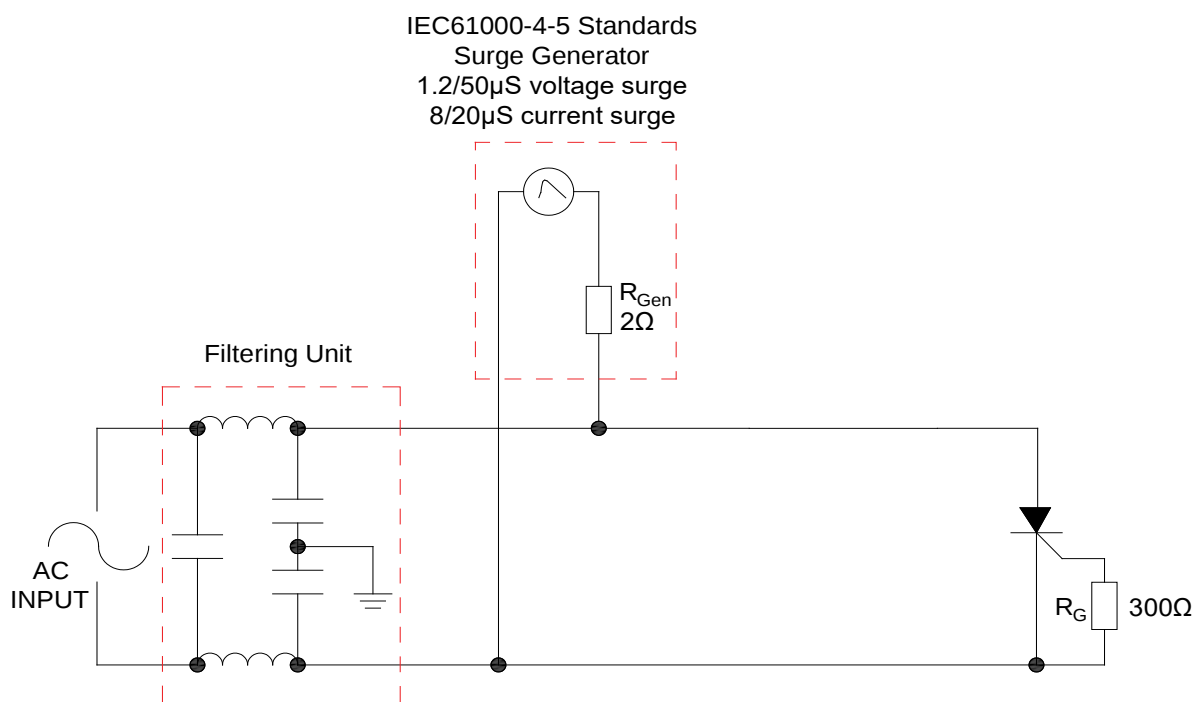


FIG.7: Test circuit for inductive and resistive loads to IEC-61000-4-5 standards.



LEAD FORMING AND SOLDERING

Refer to the application note “Assembly Instructions for Power Discretes in Through-hole Packages” released by JieJie Microelectronics



ORDERING INFORMATION

Order code	Voltage $V_{\text{DRM}}/V_{\text{RRM}}$ (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
TYN80H-1200SJ	1200	10-80	TO-247J	30	Tube

Document Revision History

Date	Revision	Changes
Apr.13, 2023	A.1.0	Last update
Jan.9, 2025	A.2.0	Update Package
Oct.16, 2025	A.2.1	Revise PACKAGE MECHANICAL DATA

Technical drawing of a 3-pin DIN connector, showing three views: front, side, and top views. The drawing includes the following dimension labels:

- Front View (Top):**
 - A:** Overall width.
 - B:** Overall height.
 - C:** Height from the base of the pins to the bottom of the housing.
 - D:** Width of the central pin.
 - E:** Width of the side pins.
 - F:** Distance between the side pins.
 - G:** Width of the central pin at the base.
 - G1:** Width of the central pin at the base.
 - H:** Thickness of the top housing.
 - I:** Thickness of the top housing.
 - J:** Thickness of the top housing.
 - K:** Thickness of the top housing.
 - L:** Thickness of the top housing.
 - M:** Thickness of the top housing.
 - N:** Thickness of the top housing.
 - O:** Thickness of the top housing.
 - P:** Thickness of the top housing.
 - Q:** Thickness of the top housing.
 - R:** Thickness of the top housing.
 - S:** Thickness of the top housing.
- Side View (Right):**
 - A1:** Overall width.
 - B1:** Overall height.
- Top View (Bottom):**
 - A1:** Overall width.
 - B1:** Overall height.

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.50		16.10	0.610		0.634
A1	1.15		1.55	0.045		0.061
B	20.80		21.20	0.819		0.835
B1	3.10		3.50	0.122		0.138
C	19.70		20.30	0.776		0.799
C1	15.50		16.10	0.610		0.634
C2	40.60		41.40	1.598		1.630
D	2.90		3.30	0.114		0.130
E	1.90		2.30	0.075		0.091
F	1.00		1.40	0.039		0.055
G		5.44			0.214	
G1	10.68		11.08	0.420		0.436
H	4.80		5.20	0.189		0.205
J	1.90		2.10	0.075		0.083
K	2.20		2.50	0.087		0.098
L	0.41		0.79	0.016		0.031
M	3.70		3.90	0.146		0.154
N	3.55		3.70	0.140		0.146
O	7.60		8.20	0.299		0.323
P	4.05		4.25	0.159		0.167
Q	5.85		6.45	0.230		0.254

Technical drawing of the ANTISTATIC RoHS label, showing dimensions in millimeters (mm).

Top View Dimensions:

- Overall width: 495.0 ± 0.5
- Overall height: 483.0 ± 0.2
- Distance from top edge to top of label: 11
- Distance from left edge to left of label: 11
- Distance from top edge to bottom of label: 145
- Distance from left edge to right of label: 70
- Label width: 7.4 ± 0.2
- Label height: 22.3
- Label text: ANTISTATIC, RoHS
- Label material: $\phi 3.00 \pm 0.05$

Side View Dimensions:

- Overall width: 45.5 ± 0.2
- Overall height: 16.4
- Distance from top edge to top of label: $0.7^{+0.1}_0$
- Distance from left edge to right of label: 2.85

PACKAGE	OUTLINE	TUBE (PCS)	INNER BOX (PCS)	PER CARTON
TO-247J	TUBE	30	450	2,250

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