

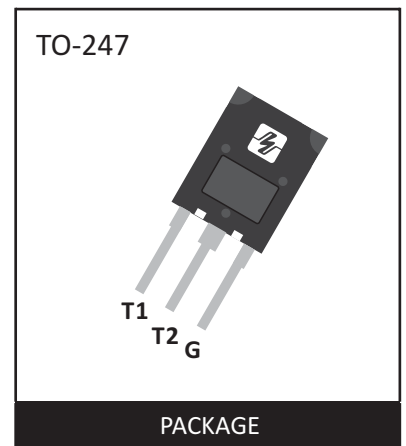
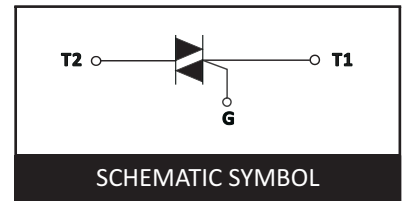
## 100A SERIES BI-DIRECTIONAL TRIODE THYRISTOR

### DESCRIPTION

General purpose switching and phase control applications .These devices are intended to be interfaced directly to microcontrollers , logic integrated circuits and other low power gate trigger circuits such as fan speed and temperature modulation control , lighting control and static switching relay.

### FEATURES

- Repetitive Peak off-State Voltage: 600V/800V/1200V/1600V
- R.M.S On-State Current( $I_{T(RMS)}=100A$ )
- Low on-state voltage:  $V_{TM}=1.55(Max.)@ I_{TM}$
- Low reverse and forward blocking current:
- High Commutation  $dV/dt$ .



### ABSOLUTE MAXIMUM RATINGS ( $T_J = 25^{\circ}C$ UNLESS OTHERWISE SPECIFIED )

Symbol	Parameter	Condition	Ratings	Units
$V_{DRM}$	Repetitive Peak Off-State Voltage		600/800/1200/1600	V
$V_{RRM}$	Repetitive Peak Reverse Voltage		600/800/1200/1600	V
$I_{T(RMS)}$	R.M.S On-State Current	All Conduction Angle	100	A
$I_{TSM}$	Surge OnState Current	F=50Hz, $t_p=20ms$	1000	A
$I^2t$	$I^2t$ for Fusing	$t_p=10ms$	2100	$A^2S$
$dI/dt$	Repetitive rate of rise of on-state current after triggering	$I_G=2I_{GT}$ F=100Hz $t_r \leq 100ns$	50	A/ $\mu S$
$P_{GM}$	Forward Peak Gate Power Dissipation		5.0	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation		1.0	W
$I_{GM}$	Peak Gate Current		8.0	A
$T_J$	Operating Junction Temperature		-40~125	$^{\circ}C$
$T_{STG}$	Storage Temperature		-40~150	$^{\circ}C$

**ELECTRICAL CHARACTERISTICS** (  $T_C = 25\text{ }^\circ\text{C}$  UNLESS OTHERWISE NOTED )

Symbol	Items	Conditions		Ratings	Unit
$I_{DRM}$	Repetitive Peak Off-State Current	$V_D = V_{DRM}$	$T_C = 25\text{ }^\circ\text{C}$	$\leq 50$	$\mu\text{A}$
			$T_C = 125\text{ }^\circ\text{C}$	$\leq 10000$	
$V_{TM}$	Peak On-State Voltage	$I_{TM} = 120\text{A}$		$\leq 1.55$	V
$I_{GT}$	Gate Trigger Current	$V_D = 12\text{V}$	I II III	$\leq 50$	mA
			IV	-	
$V_{GT}$	Gate Trigger Voltage	$V_D = 12\text{V}$		$\leq 1.3$	V
$V_{GD}$	Non-Trigger Gate Voltage	$V_D = 2/3V_{DRM}, T_J = 125\text{ }^\circ\text{C}$		$\geq 0.2$	V
dv/dt	Critical Rate of Rise Off-State Voltage	$I_{DRM}, V_D = 2/3V, T_J = 125\text{ }^\circ\text{C}$		$\geq 500$	V/ $\mu\text{S}$
$I_H$	Holding Current	$I_T = 0.1\text{A}$		$\leq 80$	mA
$I_L$	Latching current	$I_G = 1.2I_{GT}$	I III	$\leq 70$	mA
			II	$\leq 160$	

**PACKAGE MECHANICAL DATA**
**TO-247**

Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	15.10	16.10	0.595	0.632
B	19.80	20.80	0.780	0.818
C	13.80	14.80	0.544	0.582
D	3.00	4.00	0.118	0.157
E	2.75	3.35	0.108	0.132
F	1.30	1.50	0.051	0.059
G	5.10	5.80	0.201	0.228
H	4.50	5.50	0.178	0.216
J	1.45	2.15	0.058	0.084
K	1.90	2.80	0.075	0.110
L	0.55	0.80	0.022	0.032
P	2.00	2.40	0.079	0.095

## CONTACT US

### Headquarters

A Building Caohejing I&E Park  
Pujiang Minhang Shanghai  
China

### Web

<http://www.semiwill.com>

### By Telephone

General: 86-21-34637654  
Sales: 86-21-34637458  
Customer Service: 86-21-34637172

### By Email

Sales: [sales@semiwill.com](mailto:sales@semiwill.com)  
Customer Service: [cs@semiwill.com](mailto:cs@semiwill.com)  
Technical Support: [fae@semiwill.com](mailto:fae@semiwill.com)

### By Fax

General: 86-21-34637173  
Sales: 86-21-39650654

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