

HIGH-SPEED THYRISTOR  
SILICON DIFFUSED TYPE

# SH16J12U

Unit in mm

RADAR PULSE MODULATER APPLICATIONS.

FEATURES:

- . Repetitive Peak Off-State Voltage :  $V_{DRM}=600V$
- . Rise Time :  $t_r=120ns$
- . Turn-Off Time :  $t_q=30\mu s$

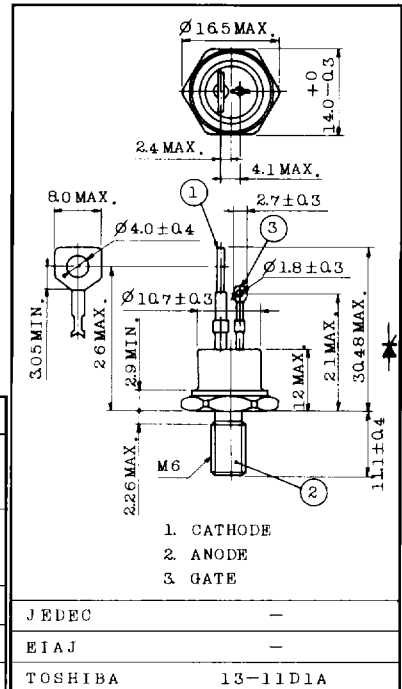
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage	$V_{DRM}$	600	V
Repetitive Peak Reverse Voltage	$V_{RRM}$	200	V
Average On-State Current	$I_T(AV)$	16	A
R.M.S On-State Current	$I_T(RMS)$	25	A
Critical Rate of Rise of On-State Current (Note 1,2)	$di/dt$	1000	A/ $\mu s$
Peak Gate Power Dissipation	$P_{GM}$	5	W
Average Gate Power Dissipation	$P_G(AV)$	0.5	W
Peak Forward Gate Voltage	$V_{FGM}$	10	V
Peak Reverse Gate Voltage	$V_{RGM}$	-5	V
Peak Forward Gate Current	$I_{GM}$	2	A
Junction Temperature	$T_j$	-40 ~ 110	$^{\circ}C$
Storage Temperature Range	$T_{stg}$	-40 ~ 125	$^{\circ}C$
Stud Torque (Note 3)	-	30	kg·cm

Note 1 : Gate Supply  $I_{GT}=1A$ ,  $t_{gr} \leq 250ns$ ,  $t_{gw}=1 \sim 2\mu s$

Note 2 :  $V_D=600V$ ,  $I_T=100A$

Note 3 : Recommended Torque 24kg·cm



JEDEC

EIAJ

TOSHIBA 13-11D1A

Mounting Kit No. AC101

Weight : 10.5g

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	MAX.	UNIT
Repetitive Peak Off-State Current	I <sub>DRM</sub>	V <sub>DRM</sub> =600V, T <sub>j</sub> =110°C	-	500	μA
Repetitive Peak Reverse Current	I <sub>RRM</sub>	V <sub>R</sub> =200V, T <sub>j</sub> =110°C	-	5	mA
Peak On-State Voltage	V <sub>TM</sub>	I <sub>TM</sub> =50A	-	1.9	V
Gate Trigger Voltage	V <sub>GT</sub>	V <sub>D</sub> =6V, R <sub>L</sub> =6Ω	-	3	V
Gate Trigger Current	I <sub>GT</sub>		-	50	mA
Gate Non-Trigger Voltage	V <sub>GD</sub>	V <sub>D</sub> =300V, T <sub>c</sub> =110°C	0.15	-	V
Gate Non-Trigger Current	I <sub>GD</sub>		0.5	-	mA
Turn-Off Time	t <sub>q</sub>	V <sub>D</sub> =600V, I <sub>T</sub> =20A, V <sub>R</sub> ≥50V dv/dt=10V/μs, T <sub>c</sub> =110°C	-	30	μs
Rise Time (Note 1)	t <sub>r</sub>	V <sub>D</sub> =600V, C=5000pF, R <sub>L</sub> =10Ω Output Current Waveform	-	120	ns
Critical Rate of Rise of Off-State Voltage	dv/dt	V <sub>DRM</sub> =600V, T <sub>c</sub> =110°C, Exponential Rise	30	-	V/μs
Holding Current	I <sub>H</sub>	R <sub>L</sub> =100Ω	-	50	mA
Thermal Resistance	R <sub>th(j-c)</sub>	Junction to Case	-	2.0	°C/W