

S6612(F, G)

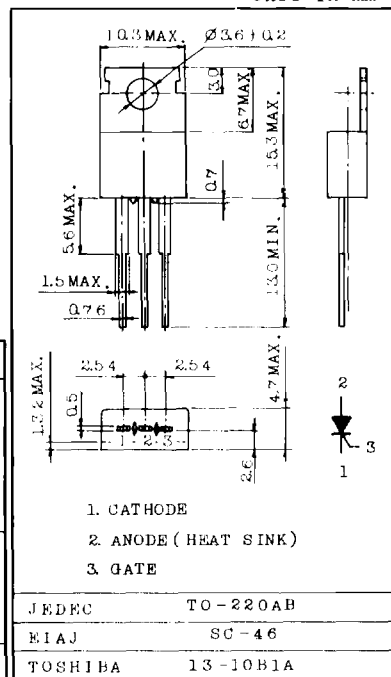
HIGH-SPEED THYRISTOR
SILICON DIFFUSED TYPE

HIGH-SPEED SWITCHING CONTROL APPLICATIONS.

- Repetitive Peak Off-State Voltage : $V_{RRM}=300\sim400V$
- Average On-State Current : $I_T(AV)=3A$
- Turn-Off Time : $t_q=3.0\mu S$

INDUSTRIAL APPLICATIONS

Unit in mm



MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	S6612F V_{DRM}	300	V
	S6612G V_{RRM}	400	
Non-Repetitive Peak Reverse Voltage ($T_j=0\sim125^\circ C$)	S6612F V_{RSM}	400	V
	S6612G V_{RSM}	500	
Average On-State Current	$I_T(AV)$	3	A
R.M.S On-State Current	$I_T(RMS)$	4.7	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	60(50Hz)	A
		66(60Hz)	
I^2t Limit Value ($t=1ms\sim10ms$)	I^2t	18	A^2s
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}	-6	V
Peak Forward Gate Current	I_{GM}	2	A
Junction Temperature	T_j	-40~125	$^\circ C$
Storage Temperature Range	T_{stg}	-40~125	$^\circ C$

Weight : 2g

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM}=V_{RRM}=\text{Rated}$ $T_j=125^\circ\text{C}$	-	1.5	mA
Peak On-State Voltage	V_{TM}	$I_{TM}=20\text{A}$	-	2.2	V
Gate Trigger Voltage	V_{GT}	$V_D=6\text{V}$, $R_L=10\Omega$	-	1.5	V
Gate Trigger Current	I_{GT}		-	20	mA
Gate Non-Trigger Voltage	V_{GD}	$V_D=\text{Rated}$, $T_c=100^\circ\text{C}$	0.1	-	V
Gate Non-Trigger Current	I_{GD}		0.5	-	mA
Turn-On Time	t_{gt}	$V_D=\text{Rated}$, $I_{TM}=3\text{A}$ $I_G=120\text{mA}$, $t_{gr}<1\mu\text{s}$	-	3.0	μs
Turn-Off Time	t_q	$V_D=\text{Rated}$, $I_{TM}=20\text{A}$, $T_c=90^\circ\text{C}$ $V_G=-2.5\text{V}$, $dv/dt \geq 100\text{V}/\mu\text{s}$	-	3.0	μs
Critical Rate of Rise of Off-State Voltage	dv/dt	$V_D=\text{Rated}$, $V_G=-2.5\text{V}$ $R_{GK}=100\Omega$, $T_c=125^\circ\text{C}$ Exponential Rise	400	-	V/ μs
Holding Current	I_H	$R_L=10\Omega$	-	60	mA
Thermal Resistance	$R_{th(j-c)}$	Junction to Case	-	3.5	$^\circ\text{C}/\text{W}$

