

THYRISTOR
SILICON DIFFUSED TYPE

SF80(D, G, J)15

Unit in mm

HIGH POWER CONTROL APPLICATIONS.

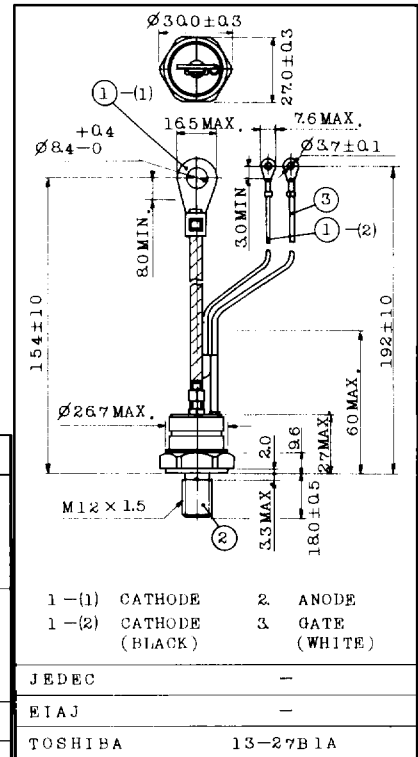
FEATURES:

- . Repetitive Peak Off-State Voltage : V_{DRM} } = 200 ~ 600V
- . Repetitive Peak Reverse Voltage : V_{RRM}
- . Average On-State Current : $I_T(AV)=80A$
- . Critical Rate of Rise of On-State Current : $di/dt=100A/\mu s$
- . Critical Rate of Rise of Off-State Voltage : $dv/dt=200V/\mu s$

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SF80D15	200	V
	SF80G15	400	
	SF80J15	600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive <5ms, $T_j=0 \sim 125^{\circ}C$)	SF80D15	300	V
	SF80G15	500	
	SF80J15	700	
R.M.S On-State Current	$I_T(RMS)$	126	A
Average On-State Current (Half Sine Waveform $T_c=87^{\circ}C$)	$I_T(AV)$	80	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	1500(50Hz)	A
		1650(60Hz)	
I^2t Limit Value	I^2t	11.2×10^3	A^2s
Critical Rate of Rise of On-State Current (Note)	di/dt	100	$A/\mu s$
Peak Gate Power Dissipation	P_{GM}	5	W
Average Gate Power Dissipation	$P_{G(AV)}$	0.5	W
Peak Forward Gate Current	I_{GM}	2	A
Peak Forward Gate Voltage	V_{FGM}	10	V
Peak Reverse Gate Voltage	V_{RCM}	5	V
Junction Temperature	T_j	$-40 \sim 125$	$^{\circ}C$
Storage Temperature Range	T_{stg}	$-40 \sim 125$	$^{\circ}C$
Stud Torque	-	110	$kg \cdot cm$

Note: $V_D=1/2$ Rated, $T_c=120^{\circ}C$, Gate Supply ($V_G=10V$, $R_G=10\Omega$, $t_r \leq 1\mu s$)



Weight : 105g

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM}=V_{RRM}=\text{Rated}$, $T_j=125^{\circ}\text{C}$	-	15	mA
Peak On-State Voltage	V_{TM}	$I_{TM}=250\text{A}$, $T_c=25^{\circ}\text{C}$	-	1.70	V
Gate Trigger Voltage	V_{GT}	$V_D=6\text{V}$, $R_L=6\Omega$	$T_c=-40^{\circ}\text{C}$	5	V
			$T_c=25^{\circ}\text{C}$	3	
Gate Trigger Current	I_{GT}		$T_c=-40^{\circ}\text{C}$	300	mA
			$T_c=25^{\circ}\text{C}$	150	
Gate Non-Trigger Voltage	V_{GD}	$V_D=1/2 \text{ Rated}$, $T_c=125^{\circ}\text{C}$	0.15	-	V
Gate Non-Trigger Current	I_{GD}		1.5	-	mA
Delay Time	t_d	$V_D=0.5 \text{ Rated}$, $T_c=25^{\circ}\text{C}$ Gate Supply ($V_G=10\text{V}$, $R_G=10\Omega$, $t_r \leq 1\mu\text{s}$)	-	4	μs
Gate Turn-On Time	t_{gt}		-	6	μs
Holding Current	I_H	$T_c=25^{\circ}\text{C}$, $R_L=6\Omega$	-	200	mA
Critical Rate of Rise of Off-State Voltage	dv/dt	$V_{DRM}=2/3 \text{ Rated}$, $T_j=125^{\circ}\text{C}$ Gate Open, Exponential Rise	200	-	$\text{V}/\mu\text{s}$
Thermal Resistance	$R_{th(j-c)}$	Junction to Case	-	0.3	$^{\circ}\text{C}/\text{W}$

