

TOSHIBA (DISCRETE/OPTO)

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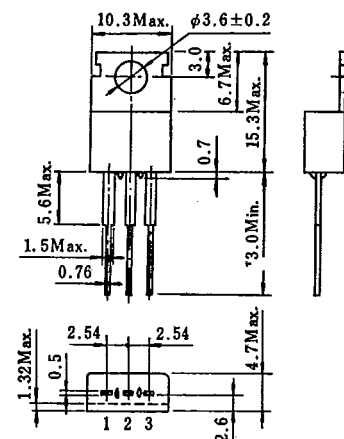
Unit in mm

SF3J41

600V 3A

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SF3B41	100	V
	SF3D41	200	
	SF3G41	400	
	SF3J 41	600	
Non-Repetitive Peak Reverse Voltage (Non-Rep <5ms) $T_j = 0 \sim 110^\circ\text{C}$	SF3B41	150	V
	SF3D41	300	
	SF3G41	500	
	SF3J 41	720	
Average On-State Current (Half Sine Waveform $T_c = 87^\circ\text{C}$)	$I_T(\text{AV})$	3	A
Average On-State Current	$I_T(\text{RMS})$	4.7	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	60(50Hz)	A
		70(60Hz)	
Peak Gate Power Dissipation	P_{GM}	5	W
Average Gate Power Dissipation	$P_{\text{G(AV)}}$	0.5	W
Peak Forward Gate Current	I_{GM}	3	A
Peak Reverse Gate Voltage	V_{RGM}	-5	V
Junction Temperature	T_j	$-40 \sim 110$	$^\circ\text{C}$
Storage Temperature Range	T_{sig}	$-40 \sim 110$	$^\circ\text{C}$
Weight		2	g



1. CATHODE
2. ANODE
3. GATE

JEDEC TO-220AB
EIAJ SC-46
TOSIBA 13-10B1A

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} and I_{RRM}	$V_{\text{DRM}} = V_{\text{RRM}} = \text{Rated}$, $T_j = 110^\circ\text{C}$	—	500	μA
Peak On-State Voltage	V_{TM}	$I_{\text{TM}} = 12\text{A}$, $T_c = 25^\circ\text{C}$	—	1.6	V
Gate Trigger Voltage	V_{GT}	$V_D = 6\text{V}$, $R_L = 6\Omega$	$T_c = -40^\circ\text{C}$	2.5	V
			$T_c = 25^\circ\text{C}$	1.5	
			$T_c = -40^\circ\text{C}$	80	mA
Gate Trigger Current	I_{GT}	$V_D = 6\text{V}$, $R_L = 6\Omega$	$T_c = 25^\circ\text{C}$	40	
Gate Non-Trigger Voltage	V_{GD}	$V_{\text{DRM}} = \text{Rated}$, $T_c = 110^\circ\text{C}$	0.2	—	V
Critical Rate of Rise of Off-State Voltage	dv/dt	$V_{\text{DRM}} = \text{Rated}$, $T_c = 110^\circ\text{C}$, Gate open, Exponential rise	100	—	$\text{V}/\mu\text{s}$
Holding Current	I_{H}	$R_L = 100\Omega$, $T_c = 25^\circ\text{C}$	—	60	mA
Thermal Resistance*	$R_{\text{th(j-c)}}$	DC	—	3.2	$^\circ\text{C}/\text{W}$

* Junction to Case

GATE TRIGGERING CHARACTERISTICS

