

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

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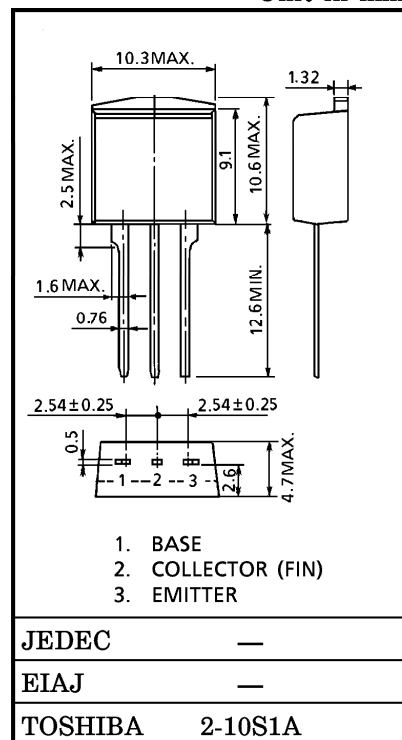
SWITCHING REGULATOR APPLICATIONS
 HIGH VOLTAGE SWITCHING APPLICATIONS
 DC-DC CONVERTER APPLICATIONS

- Excellent Switching Times : $t_f = 0.5 \mu s$ (Max.) ($I_C = 1.2 A$)
- High Collectors Breakdown Voltage : $V_{CEO} = 800 V$
- High DC Current Gain : $h_{FE} = 15$ (Min.) ($I_C = 0.15 A$)

MAXIMUM RATINGS ($T_a = 25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CB0}	900	V
Collector-Emitter Voltage		V_{CE0}	800	V
Emitter-Base Voltage		V_{EB0}	7	V
Collector Current	DC	I_C	3	A
	Pulse	I_{CP}	5	
Base Current		I_B	1	A
Collector Power Dissipation	$T_a = 25^\circ C$	P_C	1.5	W
	$T_c = 25^\circ C$		40	
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$

Unit in mm



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} = 720 V, I _E = 0	—	—	100	μA
Emitter Cut-off Current		IEBO	V _{EB} = 7 V, I _C = 0	—	—	10	μA
Collector-Base Breakdown Voltage		V _{(BR)CBO}	I _C = 1 mA, I _B = 0	900	—	—	V
Collector-Emitter Breakdown Voltage		V _{(BR)CEO}	I _C = 10 mA, I _B = 0	800	—	—	V
DC Current Gain		h _{FE} (1)	V _{CE} = 5 V, I _C = 1 mA	10	—	—	
		h _{FE} (2)	V _{CE} = 5 V, I _C = 0.15 A	15	—	—	
Collector-Emitter Saturation Voltage		V _{CE(sat)}	I _C = 1.2 A, I _B = 0.24 A	—	—	1.0	V
Base-Emitter Saturation Voltage		V _{BE(sat)}	I _C = 1.2 A, I _B = 0.24 A	—	—	1.3	V
Switching Time	Rise Time	t _r	<p> $20 \mu s$ $V_{CC} \cong 360 V$ I_{B1} I_C I_{B2} 300Ω INPUT OUTPUT </p>	—	—	0.7	μs
	Storage Time	t _{stg}		—	—	4.0	
	Fall Time	t _f		$I_{B1} = 0.24 A, I_{B2} = -0.48 A$ DUTY CYCLE $\leq 1\%$	—	—	

