

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

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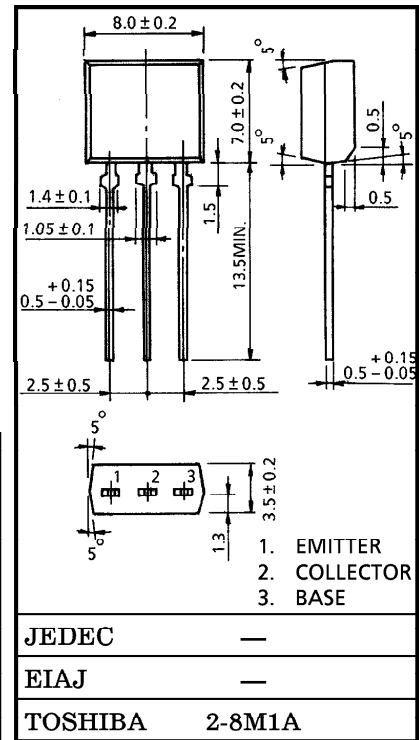
HIGH SPEED SWITCHING APPLICATIONS FOR BATTERY CHARGER AND POWER SUPPLY

- High Voltage : $V_{CE0}=450V$
- High Speed : $t_r=0.5\mu s$ (Max.), $t_f=0.3\mu s$ (Max.) ($I_C=0.8A$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	650	V
Collector-Emitter Voltage	V_{CEO}	450	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current	DC	I_C	2
	Pulse	I_{CP}	4
Base Current	I_B	0.5	A
Collector Power Dissipation	P_C	1.3	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$

Unit in mm



Weight : 0.55g

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 520V, I_E = 0$	—	—	20	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 7V, I_C = 0$	—	—	10	μA
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	650	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_E = 10mA, I_C = 0$	450	—	—	V
DC Current Gain		$h_{FE(1)}$	$V_{CE} = 5V, I_C = 1mA$	13	—	—	—
		$h_{FE(2)}$	$V_{CE} = 5V, I_C = 0.2A$	20	—	65	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 0.8A, I_B = 0.1A$	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 0.8A, I_B = 0.1A$	—	—	1.3	V
Switching Time	Rise Time	t_r		—	—	0.5	μs
	Storage Time	t_{stg}		—	—	2.0	
	Fall Time	t_f		$I_{B1} = 0.1A, I_{B2} = -0.2A$ DUTY CYCLE $\leq 1\%$	—	—	

