

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SC5548A

SWITCHING REGULATOR APPLICATIONS

HIGH VOLTAGE SWITCHING APPLICATIONS

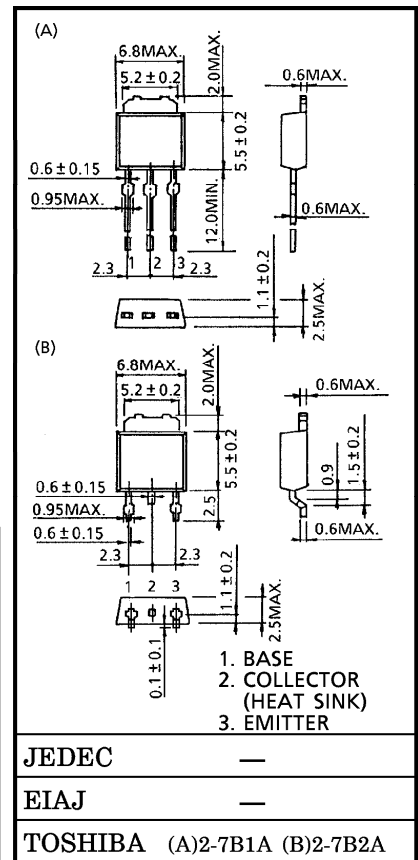
DC-DC CONVERTER APPLICATIONS

- High Speed Switching : $t_r = 0.5 \mu s$ (Max.), $t_f = 0.3 \mu s$ (Max.)
($I_C = 0.8 A$)
- High Collector Breakdown Voltage : $V_{CEO} = 400 V$
- High DC Current Gain : $h_{FE} = 40$ (Min.) ($I_C = 0.2 A$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	600	V
Collector-Emitter Voltage	V_{CEO}	400	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	$T_a = 25^\circ C$	P_C	1.0
	$T_c = 25^\circ C$		15
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		I_{CBO}	$V_{CB} = 480\text{ V}, I_E = 0$	—	—	20	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 7\text{ V}, I_C = 0$	—	—	10	μA
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C = 1\text{ mA}, I_B = 0$	600	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	400	—	—	V
DC Current Gain		$h_{FE(1)}$	$V_{CE} = 5\text{ V}, I_C = 1\text{ mA}$	20	—	—	
		$h_{FE(2)}$	$V_{CE} = 5\text{ V}, I_C = 0.2\text{ A}$	40	—	100	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 0.8\text{ A}, I_B = 0.1\text{ A}$	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 0.8\text{ A}, I_B = 0.1\text{ A}$	—	—	1.3	V
Switching Time	Turn-on Time	t_r	<p> $V_{CC} \cong 200\text{ V}$ $I_C = 250\Omega$ $20\ \mu\text{s}$ INPUT I_{B1} I_{B21} OUTPUT I_{B2} </p>	—	—	0.5	μs
	Storage Time	t_{stg}		—	—	3.0	
	Fall Time	t_f		$I_{B1} = 0.1\text{ A}, I_{B2} = -0.2\text{ A}$ $\text{DUTY CYCLE} \leq 1\%$	—	—	

