

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SC5368

SWITCHING REGULATOR APPLICATIONS

HIGH VOLTAGE SWITCHING APPLICATIONS

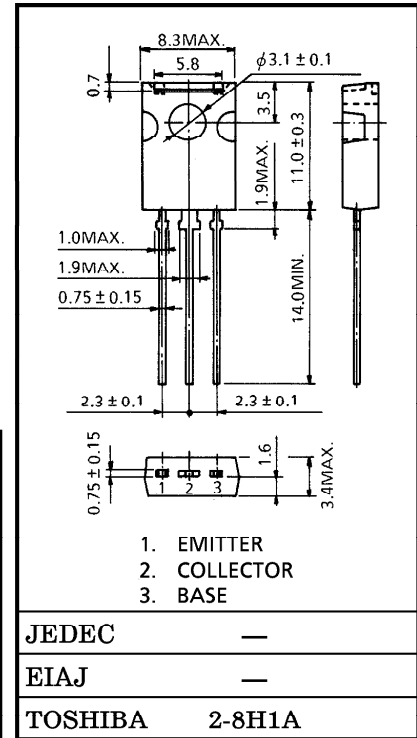
DC-DC CONVERTER APPLICATIONS

- High Speed : $t_r = 0.5 \mu s$ (Max.), $t_f = 0.3 \mu s$ (Max.)
($I_C = 0.8A$)
- High Collector Breakdown Voltage : $V_{CEO} = 450V$
- High DC Current Gain : $h_{FE} = 20$ (Min.) ($I_C = 0.3A$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	650	V
Collector-Emitter Voltage	V_{CE0}	450	V
Emitter-Base Voltage	V_{EB0}	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	1.5
	$T_c = 25^\circ C$		10
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}	$V_{CB} = 520V, I_E = 0$	—	—	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		$V_{(BR)CEO}$	$I_E = 10mA, I_B = 0$	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	<p> $20\mu s$ $V_{CC} = 200V$ I_{B1} I_{B2} I_C 250Ω INPUT OUTPUT </p>	—	—	0.5	μs
	Storage Time	t_{stg}		—	—	2.0	
	Fall Time	t_f		$I_{B1} = 0.1A, I_{B2} = -0.2A$ $DUTY\ CYCLE \leq 1\%$	—	—	

