

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

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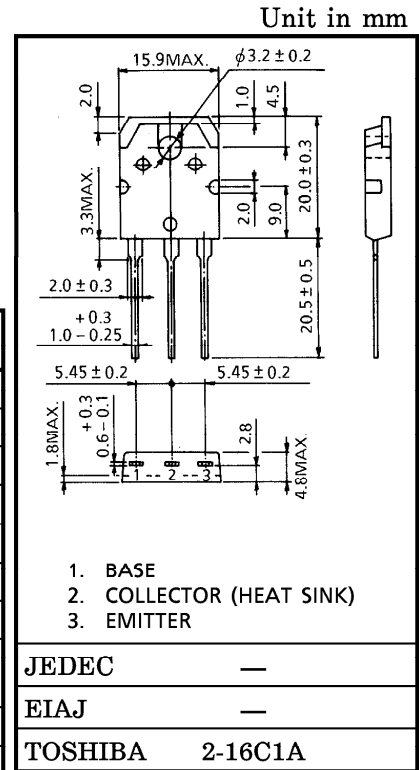
SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS

HIGH SPEED DC-DC CONVERTER APPLICATIONS

- Excellent Switching Times : $t_r = 1.0 \mu s$ (Max.), $t_f = 1.0 \mu s$ (Max.)
- High Collector Breakdown Voltage : $V_{CEO} = 800V$

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	900	V
Collector-Emitter Voltage		V_{CEO}	800	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	4	A
	Pulse	I_{CP}	8	A
Base Current	DC	I_B	2	A
	Pulse	I_{BP}	5	A
Collector Power Dissipation ($T_c = 25^\circ C$)		P_C	80	W
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$



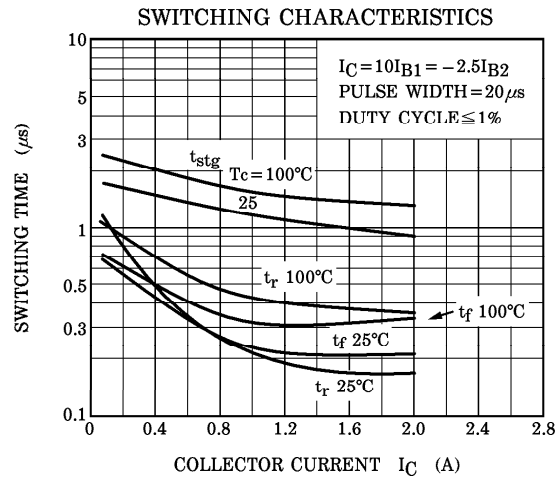
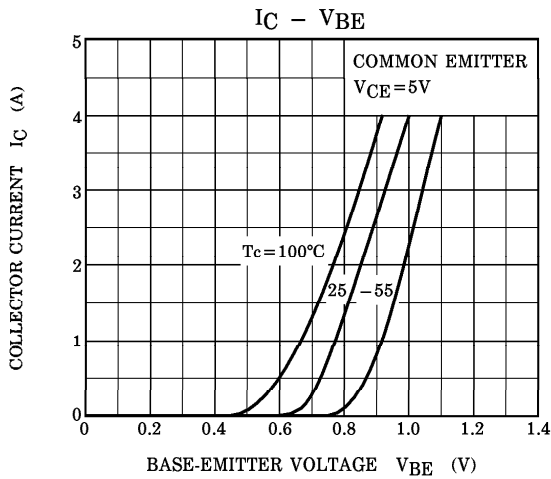
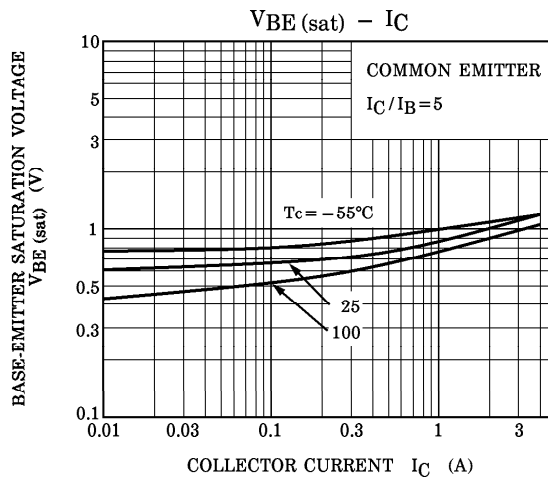
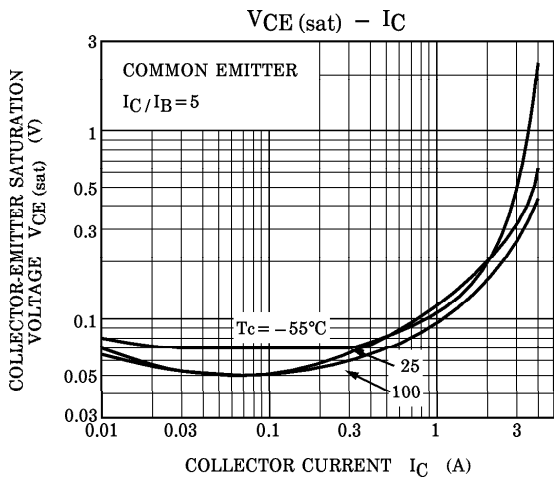
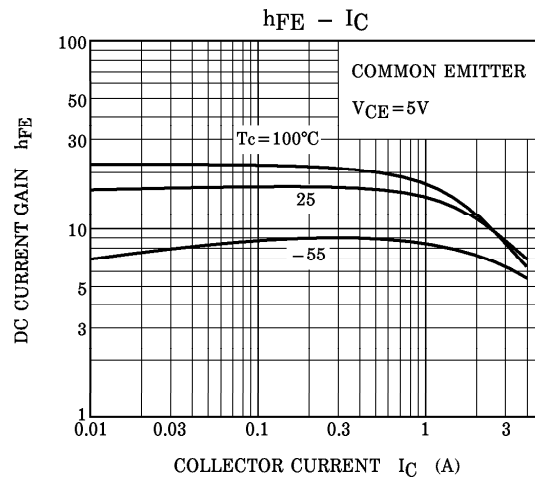
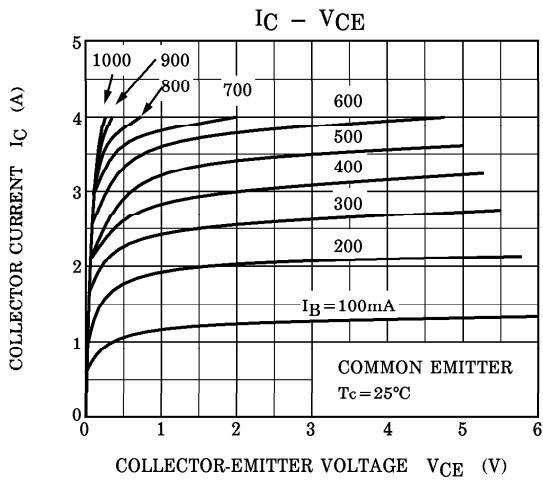
Weight : 4.7g (Typ.)

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 800V, I_E = 0$	—	—	100	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 7V, I_C = 0$	—	—	1	mA
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	900	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	800	—	—	V
DC Current Gain		h_{FE}	$V_{CE} = 5V, I_C = 1A$	10	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 2A, I_B = 0.4A$	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 2A, I_B = 0.4A$	—	—	1.5	V
Switching Time	Rise Time	t_r	<p>$20 \mu s$ $I_{B1} \quad I_{B2}$ $I_C = 1A$ $V_{CC} = 400V$ $4I_{B1} = -I_{B2} = -0.4A$ DUTY CYCLE $\leq 1\%$</p>	—	—	1.0	μs
	Storage Time	t_{stg}		—	—	2.5	
	Fall Time	t_f		—	—	1.0	

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