

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (PCT PROCESS)

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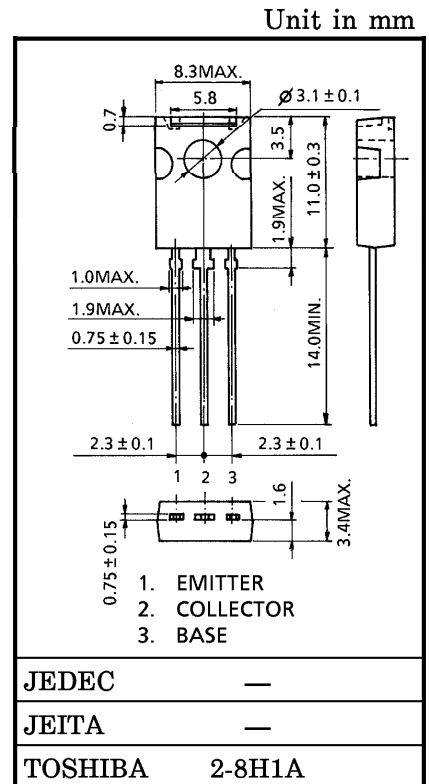
SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS

HIGH SPEED DC-DC CONVERTER APPLICATIONS

- Excellent Switching Times
: $t_r = 1.0\mu s$ (Max.), $t_f = 1.5\mu s$ (Max.) at $I_C = 0.5A$
- High Collector Breakdown Voltage : $V_{CEO} = 400V$

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	500	V
Collector-Emitter Voltage		V_{CEO}	400	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	0.8	A
	Pulse	I_{CP}	1.5	A
Base Current		I_B	0.5	A
Collector Power Dissipation	$T_a = 25^\circ C$	P_C	1.2	W
	$T_c = 25^\circ C$		10	
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$

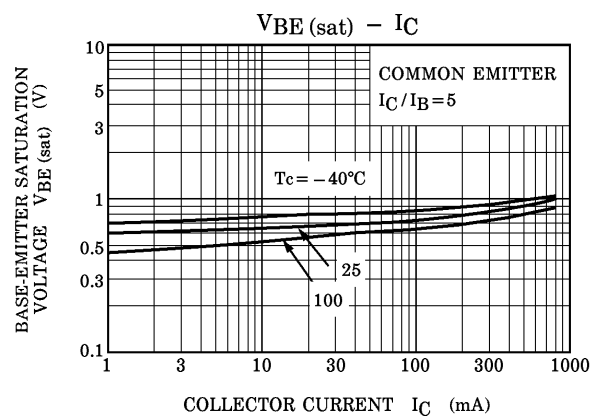
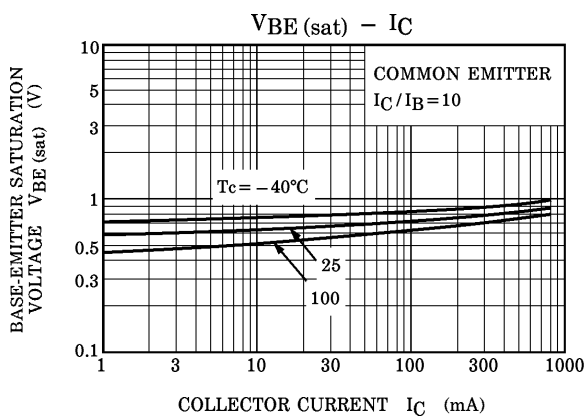
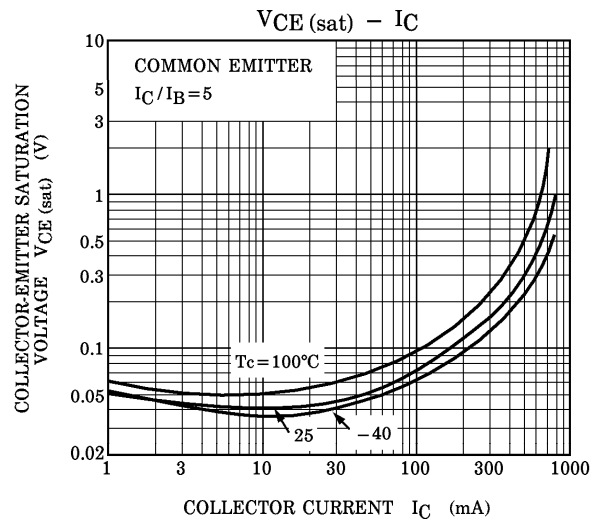
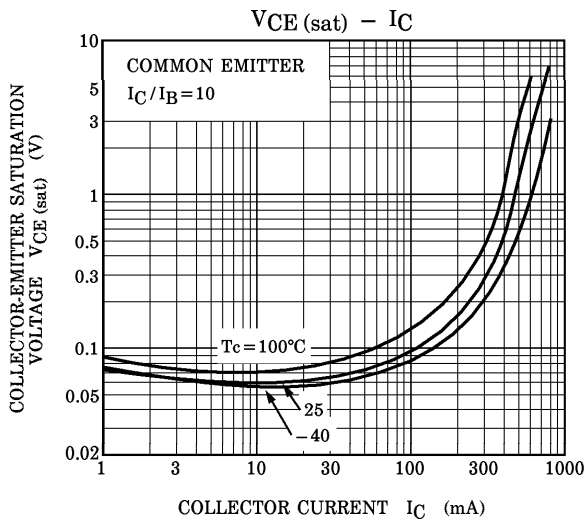
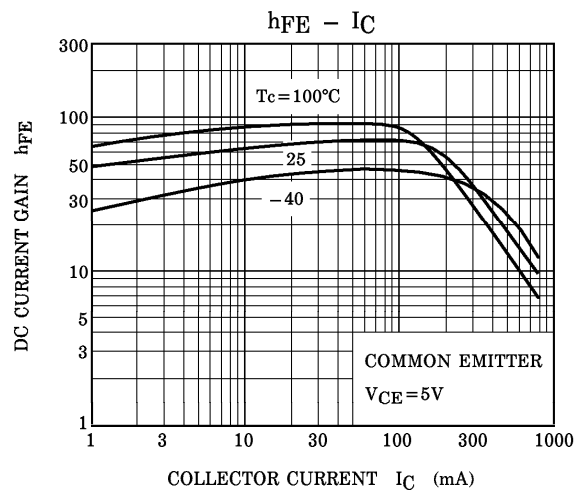
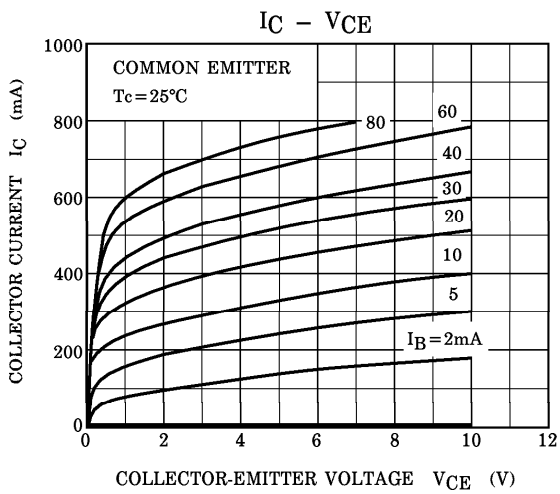


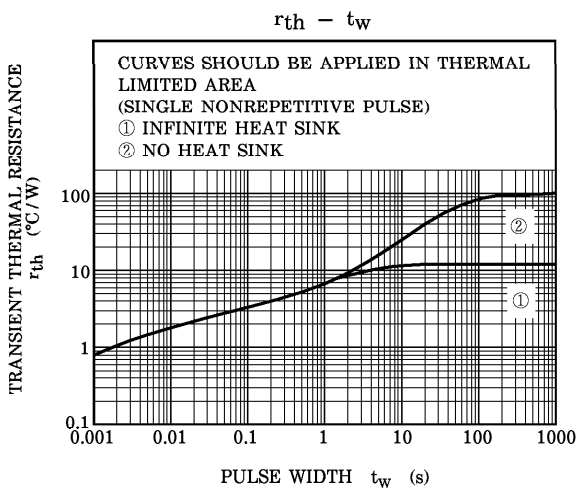
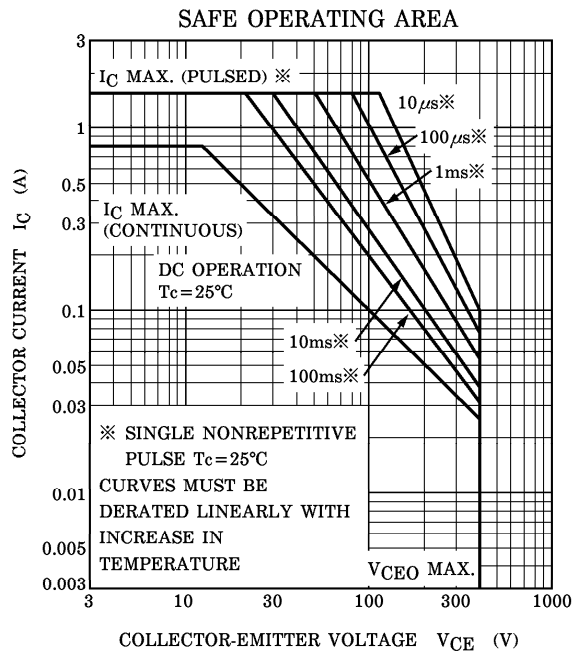
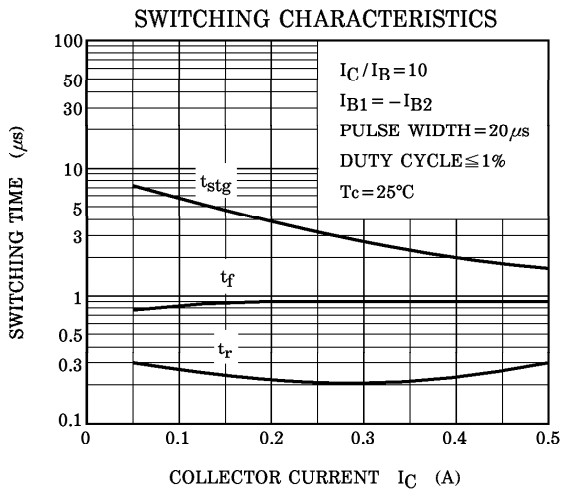
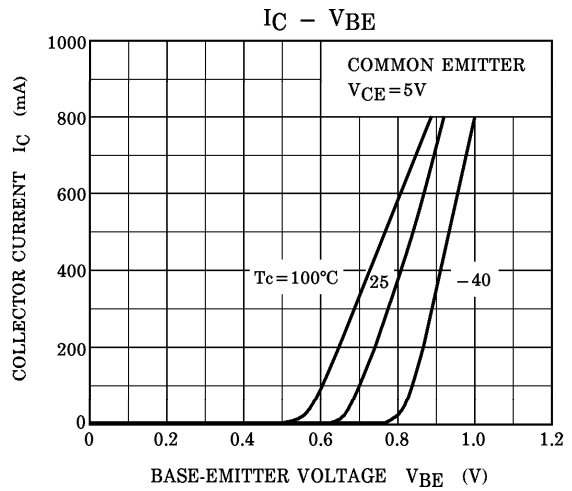
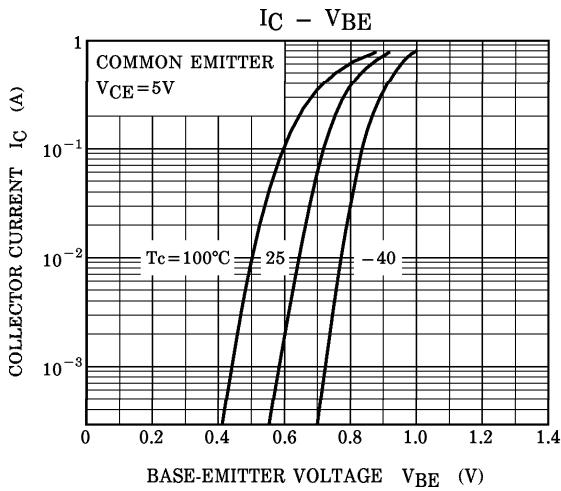
Weight : 0.82g (Typ.)

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

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 400V, I_E = 0$	—	—	100	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 7V, I_C = 0$	—	—	100	μA
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	500	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	400	—	—	V
DC Current Gain		h_{FE}	$V_{CE} = 5V, I_C = 0.1A$	20	—	100	
			$V_{CE} = 5V, I_C = 0.5A$	10	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 0.1A, I_B = 0.01A$	—	—	0.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 0.1A, I_B = 0.01A$	—	—	1.0	V
Switching Time	Rise Time	t_r		—	—	1.0	μs
	Storage Time	t_{stg}		—	—	2.5	
	Fall Time	t_f		—	—	1.5	

$I_{B1} = -I_{B2} = 0.05A, V_{CC} = 200V$
DUTY CYCLE $\leq 1\%$





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