

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SD1187

HIGH POWER SWITCHING APPLICATIONS

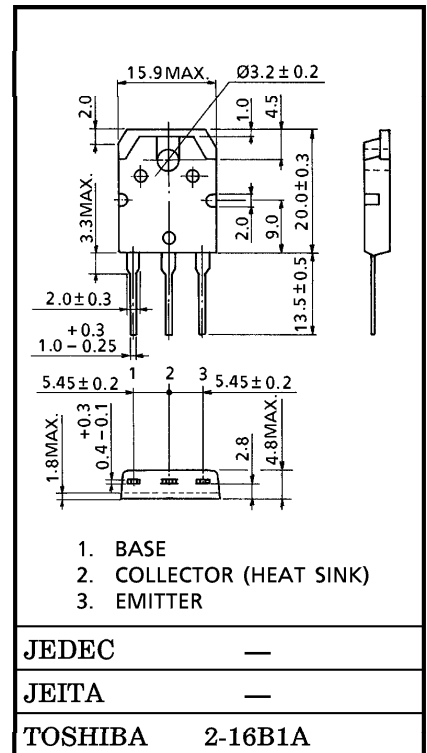
DC-DC CONVERTER AND DC-AC INVERTER APPLICATIONS

- Low Collector-Emitter Saturation Voltage : $V_{CE(sat)} = 0.5V$
(Max.) ($I_C = 6A$)
- High Collector Power Dissipation : $P_C = 80W$ ($T_c = 25^\circ C$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	10	A
Base Current	I_B	2	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	$^\circ C$

Unit in mm

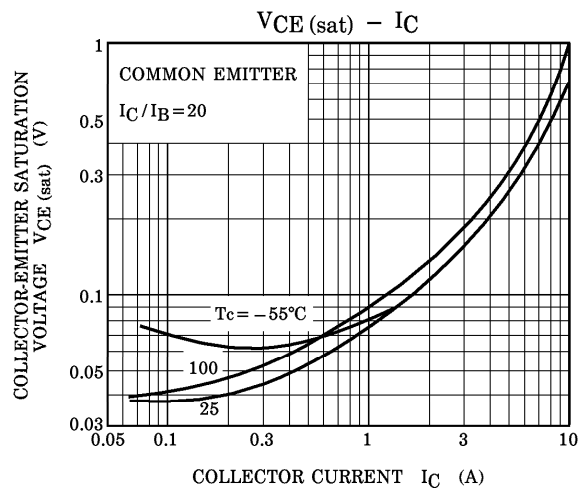
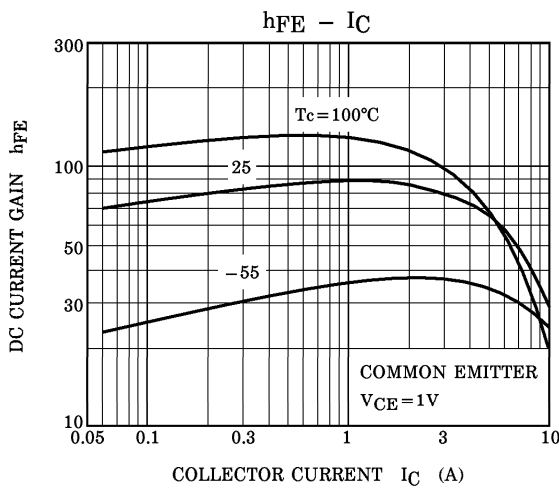
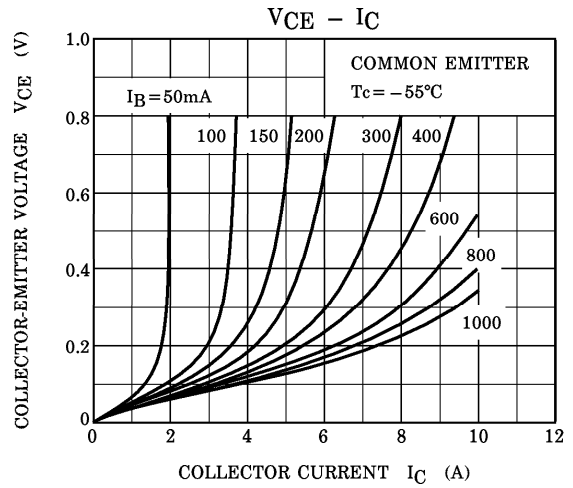
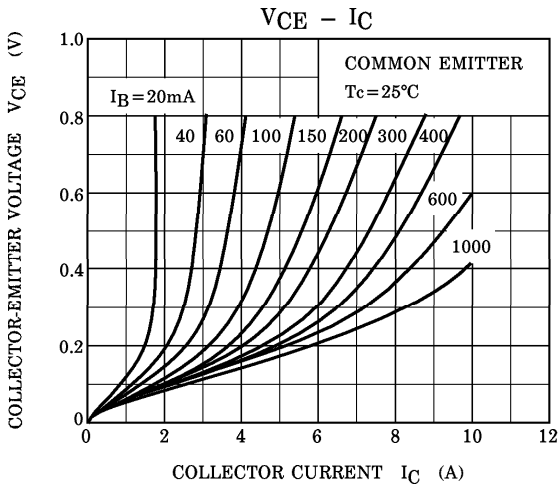
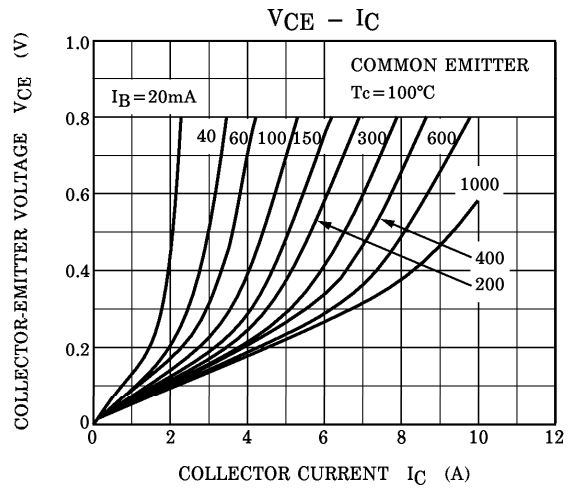
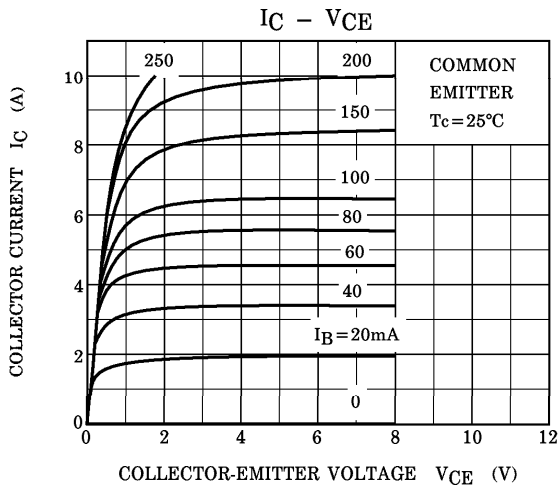


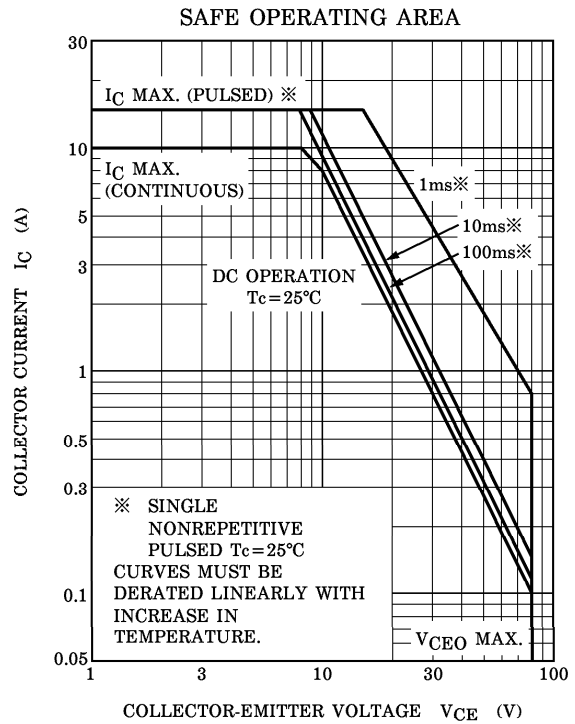
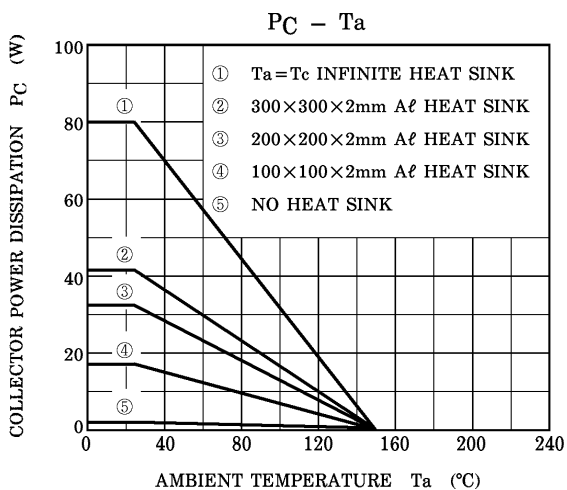
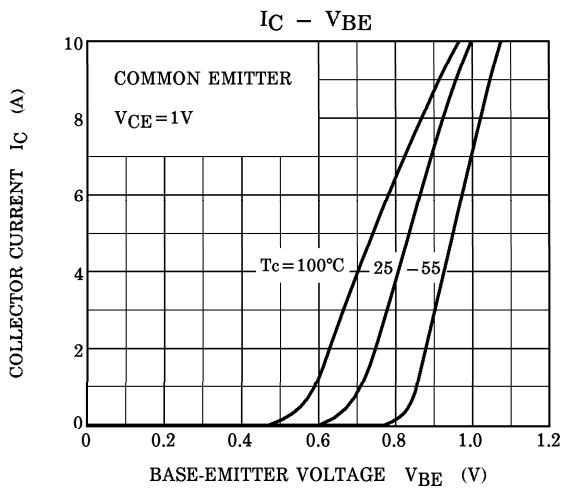
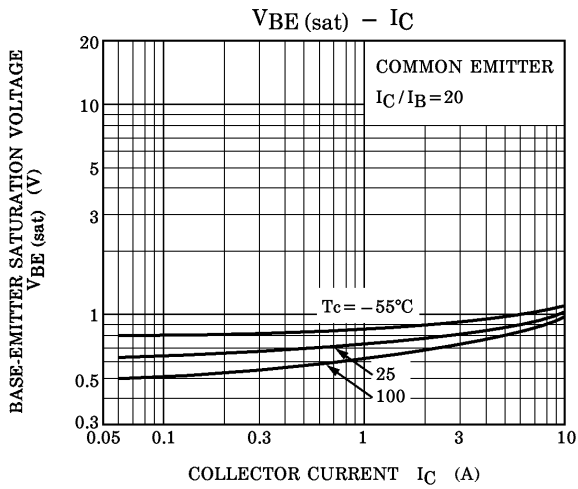
Weight : 4.6 g (Typ.)

ELECTRICAL CHARACTERISTICS (T_c = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	I _{CBO}	V _{CB} = 100V, I _E = 0	—	—	10	μA	
Emitter Cut-off Current	I _{EBO}	V _{EB} = 5V, I _C = 0	—	—	10	μA	
Collector-Emitter Breakdown Voltage	V (BR) CEO	I _C = 50mA, I _B = 0	80	—	—	V	
DC Current Gain	h _{FE} (1) (Note)	V _{CE} = 1V, I _C = 1A	70	—	240		
	h _{FE} (2)	V _{CE} = 1V, I _C = 6A	30	—	—		
Collector-Emitter Saturation Voltage	V _{CE} (sat)	I _C = 6A, I _B = 0.3A	—	0.3	0.5	V	
Base-Emitter Saturation Voltage	V _{BE} (sat)	I _C = 6A, I _B = 0.3A	—	0.9	1.4	V	
Transition Frequency	f _T	V _{CE} = 4V, I _C = 1A	—	10	—	MHz	
Collector Output Capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f = 1MHz	—	350	—	pF	
Switching Time	Turn-on Time	t _{on}		—	0.5	—	μs
	Storage Time	t _{stg}		—	2.5	—	
	Fall Time	t _f		I _{B1} = -I _{B2} = 0.3A, DUTY CYCLE ≤ 1%	—	0.8	

(Note) : h_{FE} (1) Classification O : 70~140, Y : 120~240





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