

TOSHIBA Transistor Silicon NPN Epitaxial Type

2SC3964

Switching Applications

Solenoid Drive Applications

Temperature Compensated for Audio Amplifier Output Stage

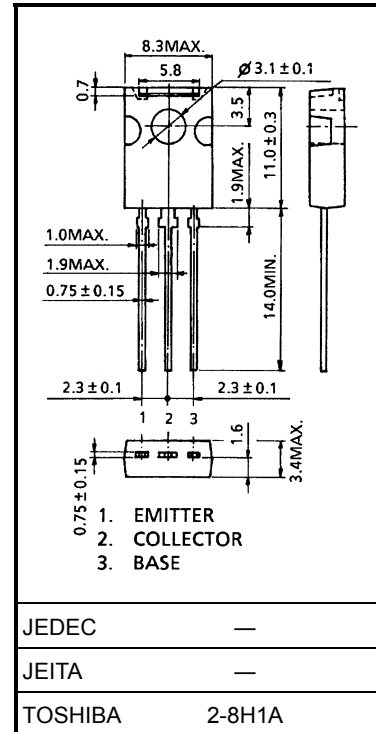
Industrial Applications

Unit: mm

- High DC current gain: $h_{FE} = 500$ (min) ($I_C = 400$ mA)
- Low collector-emitter saturation voltage: $V_{CE(sat)} = 0.5$ V (max) ($I_C = 300$ mA)

Maximum Ratings ($T_c = 25^\circ\text{C}$)

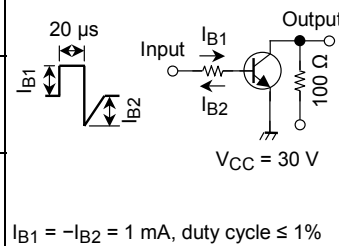
Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	40	V
Collector-emitter voltage	V_{CEO}	40	V
Emitter-base voltage	V_{EBO}	7	V
Collector current	I_C	2	A
Base current	I_B	0.5	A
Collector power dissipation	P_C	1.5	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$



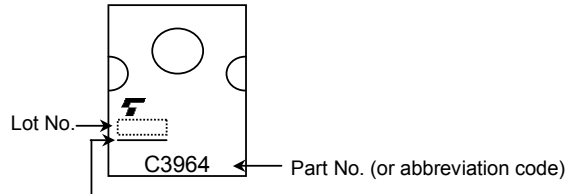
Weight: 0.82 g (typ.)

Electrical Characteristics ($T_c = 25^\circ\text{C}$)

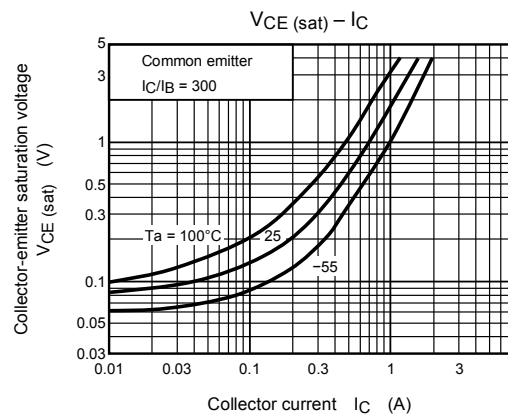
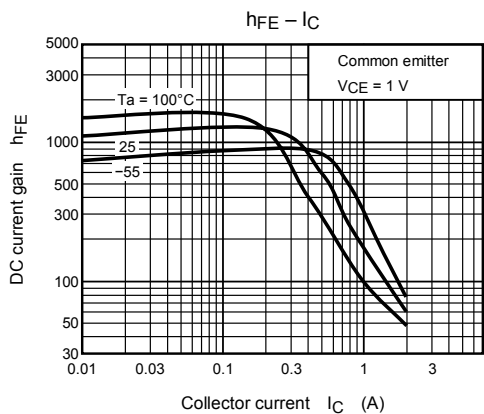
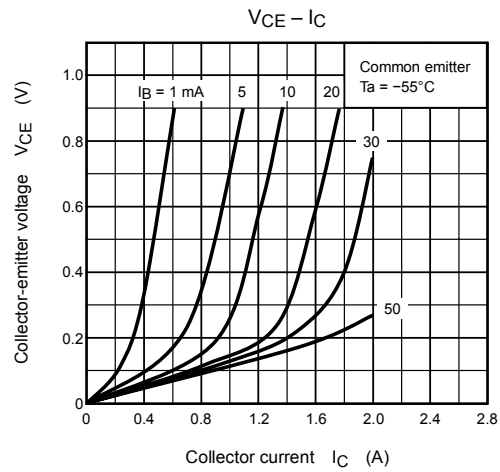
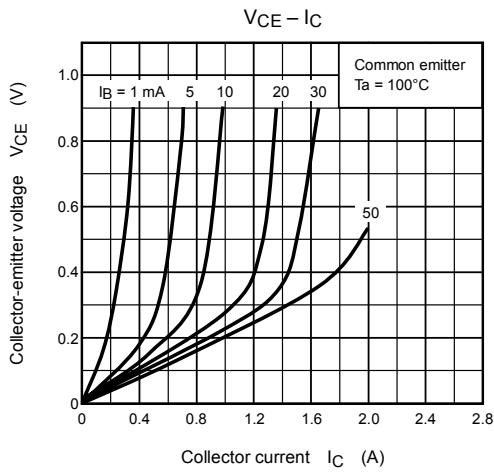
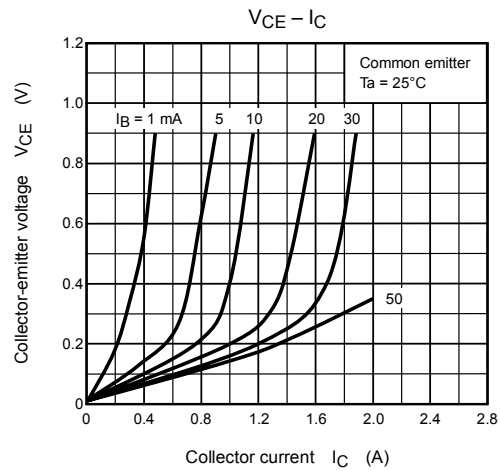
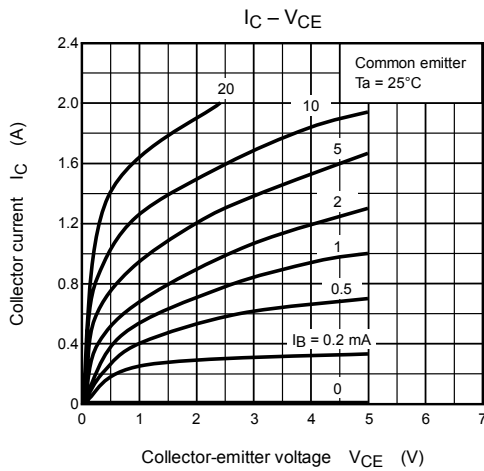
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 40$ V, $I_E = 0$	—	—	10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7$ V, $I_C = 0$	—	—	1	μA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10$ mA, $I_B = 0$	40	—	—	V
DC current gain	h_{FE}	$V_{CE} = 1$ V, $I_C = 400$ mA	500	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 300$ mA, $I_B = 1$ mA	—	0.3	0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 300$ mA, $I_B = 1$ mA	—	—	1.1	V
Transition frequency	f_T	$V_{CE} = 2$ V, $I_C = 100$ mA	—	220	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10$ V, $I_B = 0$, $f = 1$ MHz	—	20	—	pF
Switching time	Turn-on time	t_{on}	—	1.0	—	μs
	Storage time	t_{stg}	—	3.0	—	
	Fall time	t_f	—	1.2	—	

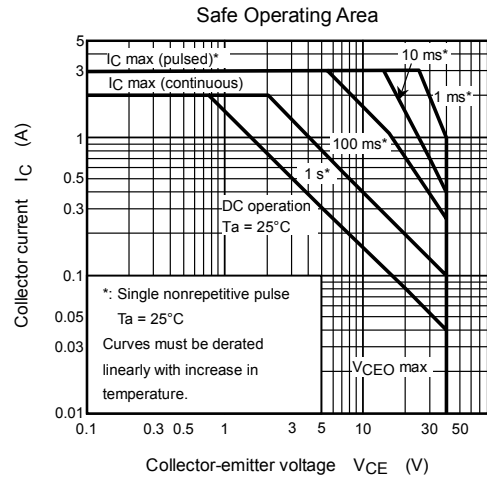
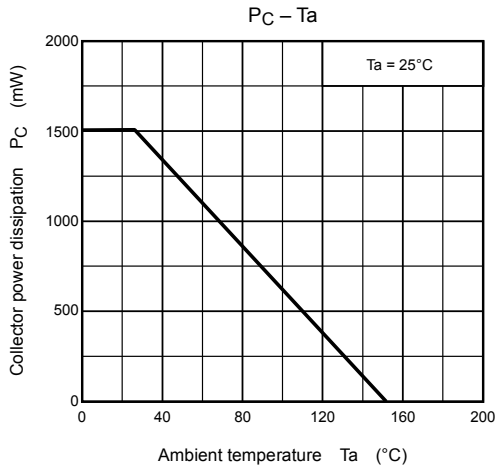
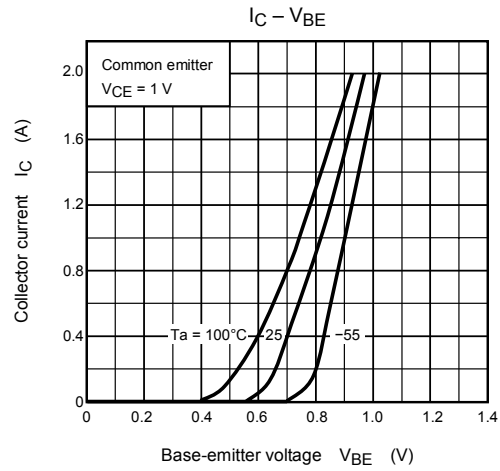
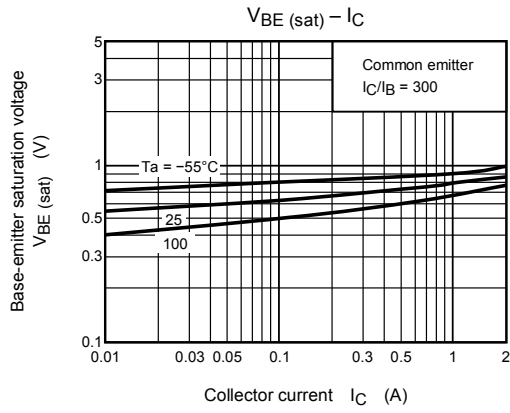


Marking



A line indicates
lead (Pb)-free package or
lead (Pb)-free finish.





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