

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

2SC3328

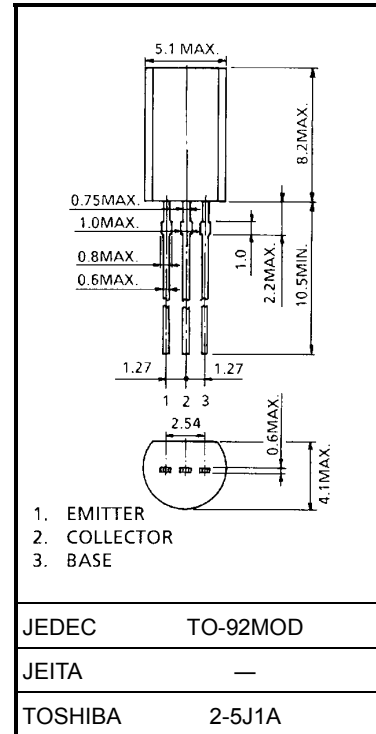
Power Amplifier Applications
Power Switching Applications

- Low saturation voltage: $V_{CE(sat)} = 0.5 \text{ V (max)}$ ($I_C = 1 \text{ A}$)
- High-speed switching: $t_{stg} = 1.0 \mu\text{s (typ.)}$
- Complementary to 2SA1315

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V_{CEO}	80	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	2	A
Base current	I_B	1	A
Collector power dissipation	P_C	900	mW
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

Unit: mm



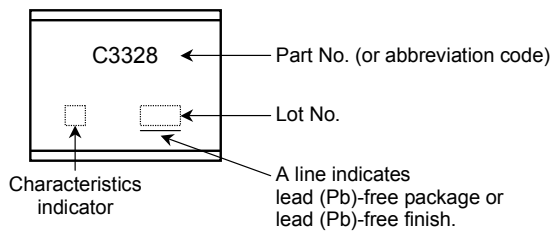
Weight: 0.36 g (typ.)

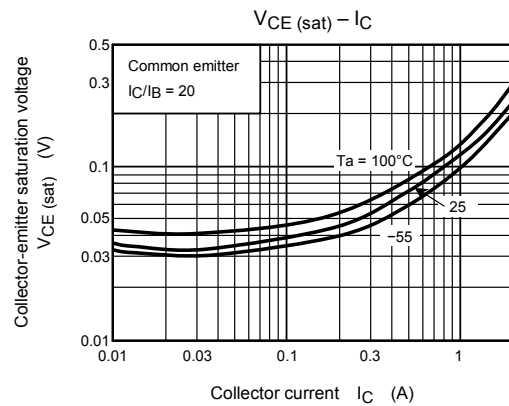
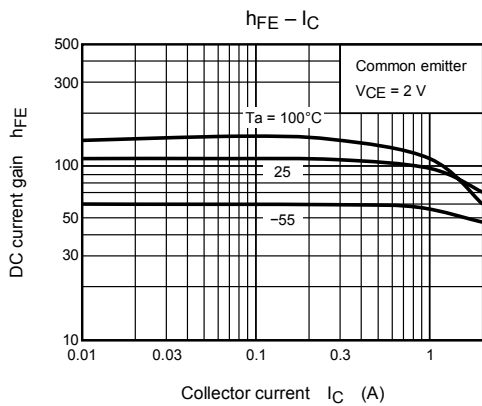
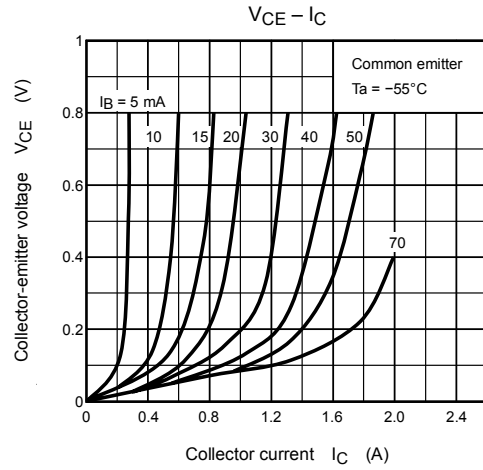
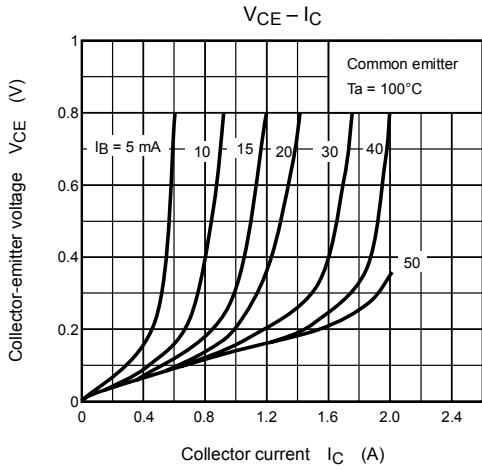
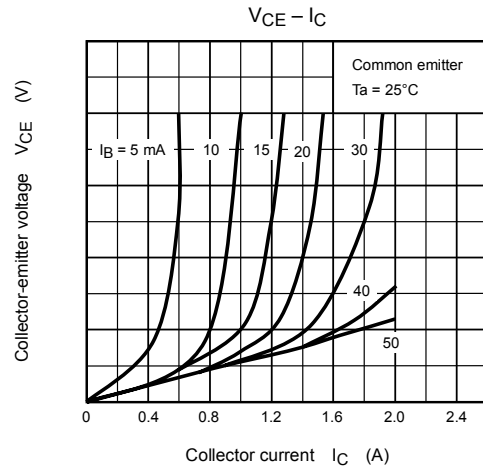
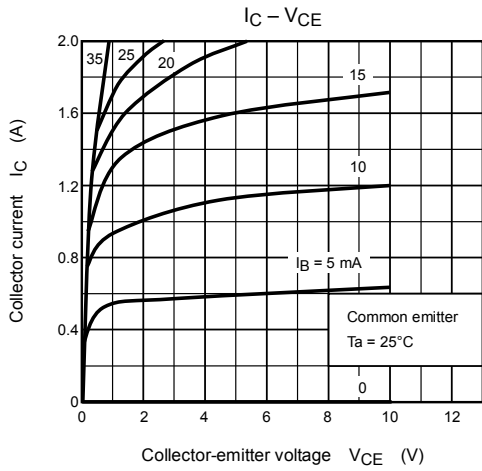
Electrical Characteristics (Ta = 25°C)

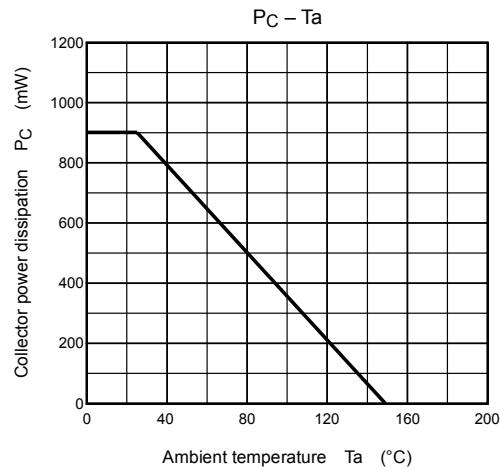
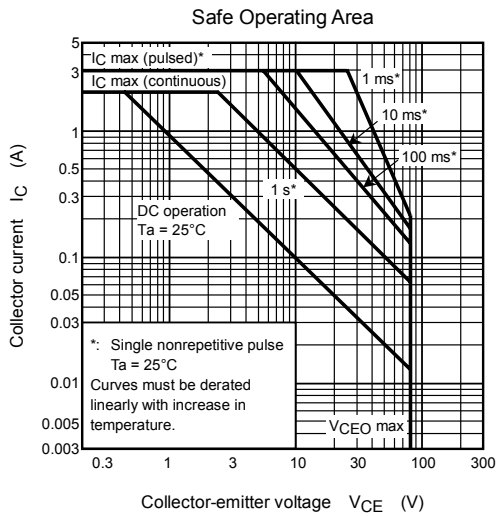
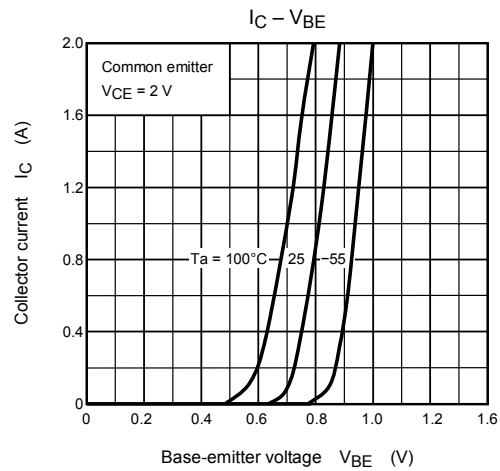
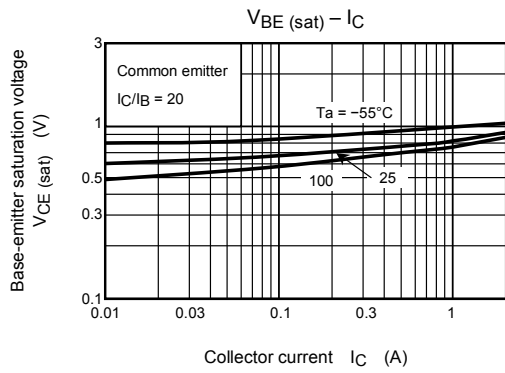
Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = 80 \text{ V}, I_E = 0$	—	—	1.0	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$	—	—	1.0	μA
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	$I_C = 10 \text{ mA}, I_B = 0$	80	—	—	V
DC current gain		$h_{FE(1)}$ (Note)	$V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$	70	—	240	
		$h_{FE(2)}$	$V_{CE} = 2 \text{ V}, I_C = 1.5 \text{ A}$	40	—	—	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 1 \text{ A}, I_B = 0.05 \text{ A}$	—	0.15	0.5	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 1 \text{ A}, I_B = 0.05 \text{ A}$	—	0.9	1.2	V
Transition frequency		f_T	$V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$	—	100	—	MHz
Collector output capacitance		C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	—	30	—	pF
Switching time	Turn-on time	t_{on}		—	0.2	—	μs
	Storage time	t_{stg}		—	1.0	—	
	Fall time	t_f		—	0.2	—	

Note: $h_{FE(1)}$ classification O: 70 to 140, Y: 120 to 240

Marking







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