

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

# 2SC3669

Power Amplifier Applications

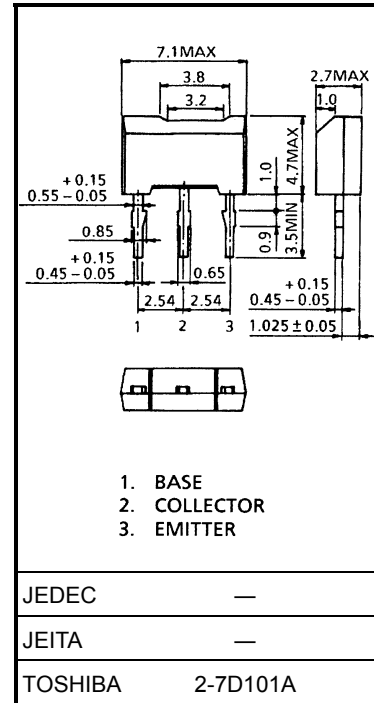
Power Switching Applications

Unit: mm

- Low collector saturation voltage:  $V_{CE(sat)} = 0.5 \text{ V (max)}$  ( $I_C = 1 \text{ A}$ )
- High-speed switching:  $t_{stg} = 1.0 \text{ } \mu\text{s (typ.)}$
- Complementary to 2SA1429

## 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	$P_C$	1000	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to 150	$^\circ\text{C}$

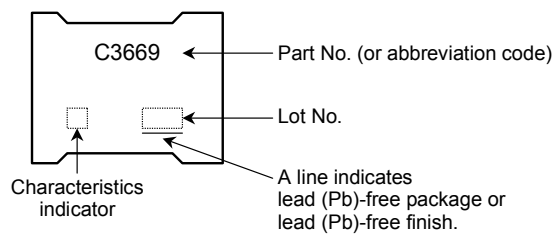


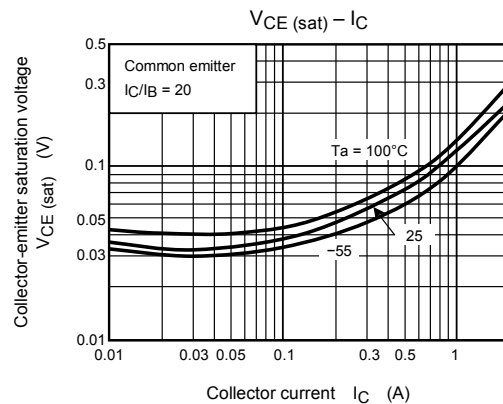
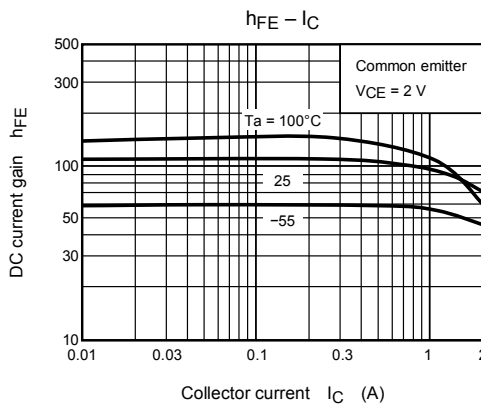
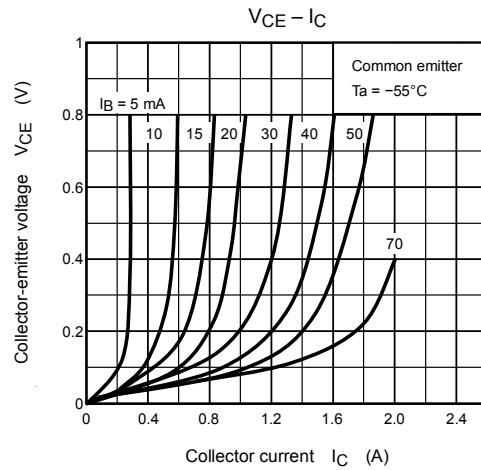
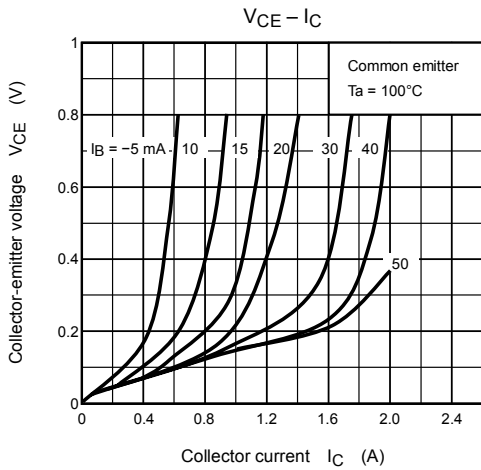
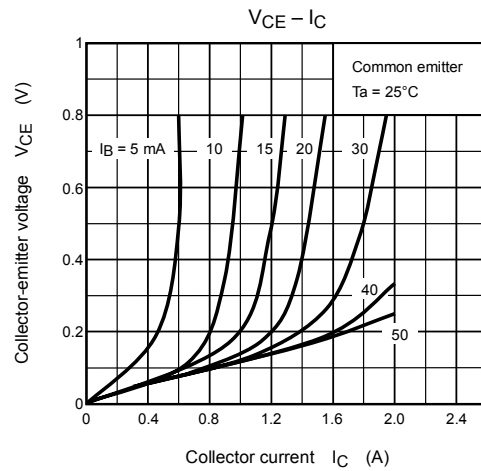
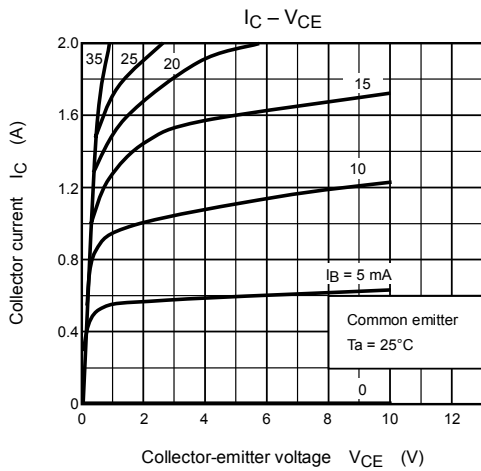
Weight: 0.2 g (typ.)

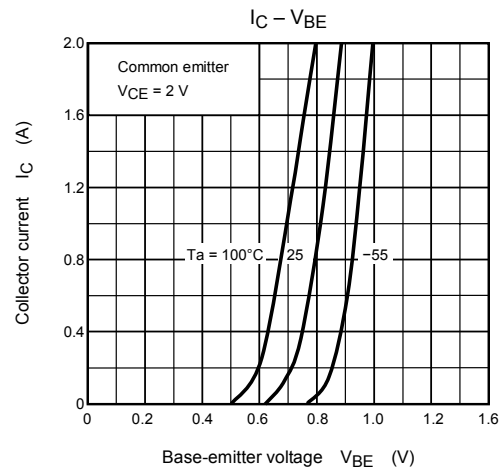
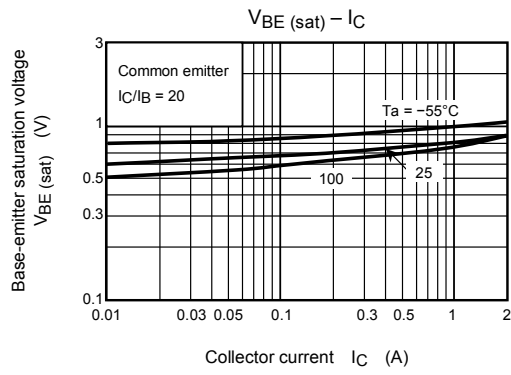
## Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 80 \text{ V}, I_E = 0$	—	—	1.0	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5 \text{ V}, I_C = 0$	—	—	1.0	$\mu\text{A}$
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	—	$\mu\text{s}$
	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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