

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

2SC3076

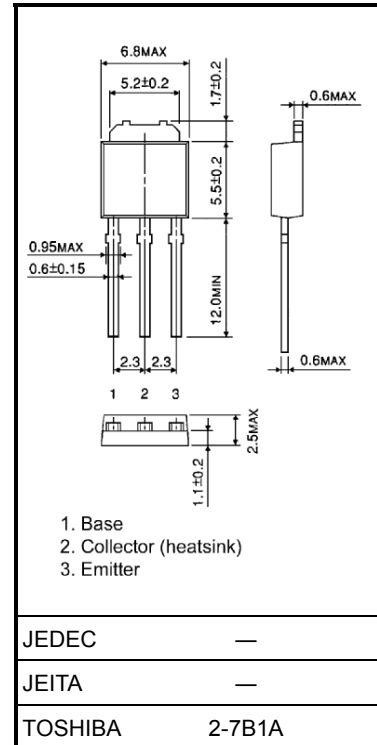
Power Amplifier Applications
Power Switching Applications

- Low collector saturation voltage: $V_{CE(sat)} = 0.5 \text{ V (max)}$ ($I_C = 1 \text{ A}$)
- Excellent switching time: $t_{stg} = 1.0 \mu\text{s}$ (typ.)
- Complementary to 2SA1241

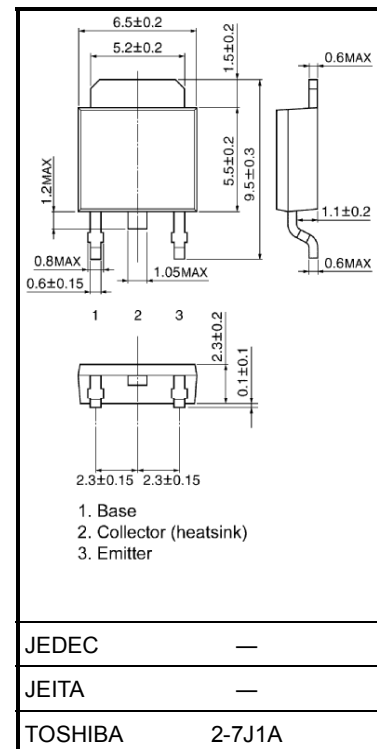
Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit	
Collector-base voltage	V_{CB0}	50	V	
Collector-emitter voltage	V_{CE0}	50	V	
Emitter-base voltage	V_{EB0}	5	V	
Collector current	I_C	2	A	
Base current	I_B	1	A	
Collector power dissipation	P_C	$T_a = 25^\circ\text{C}$	1.0	W
		$T_c = 25^\circ\text{C}$	10	
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.)



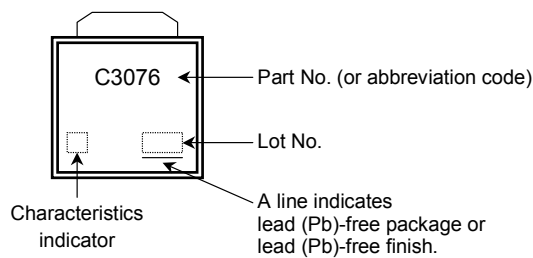
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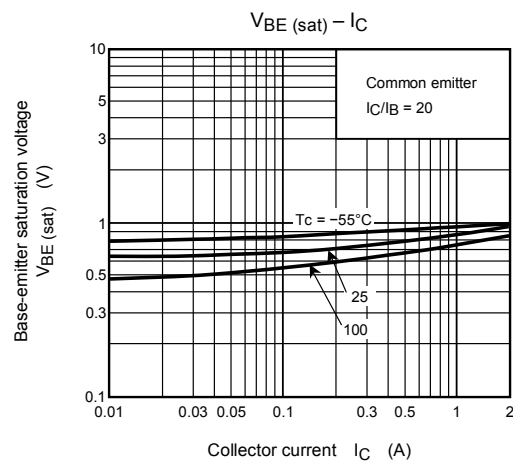
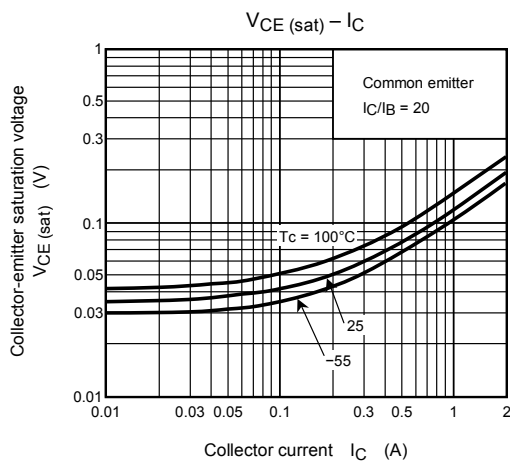
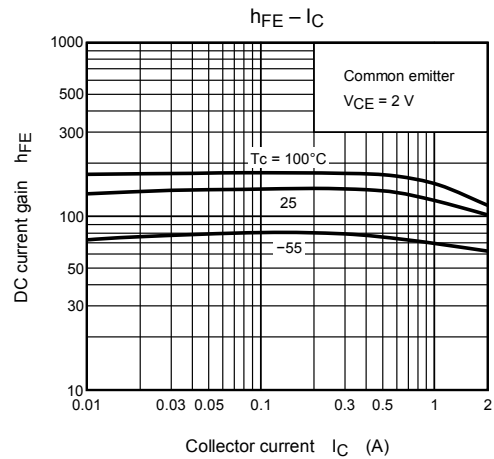
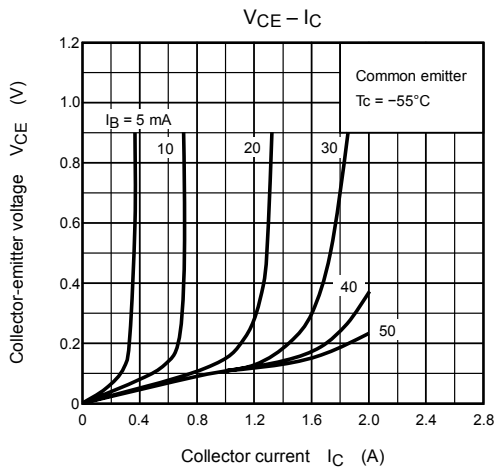
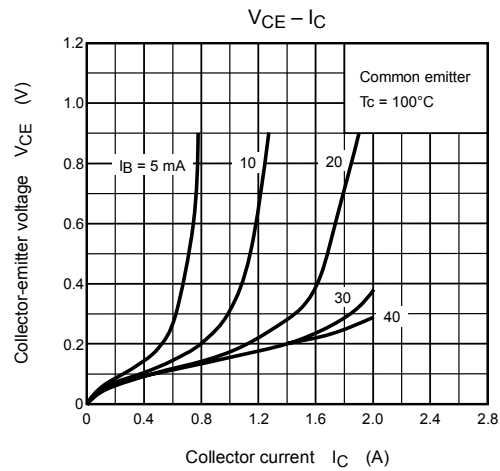
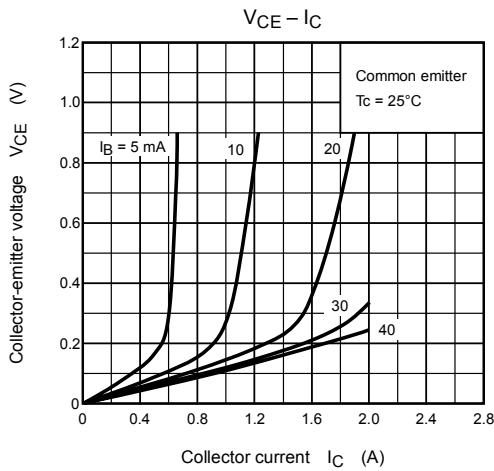
Electrical Characteristics (Ta = 25°C)

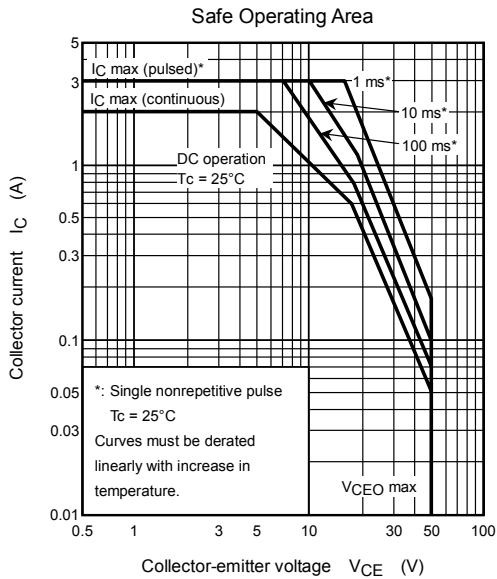
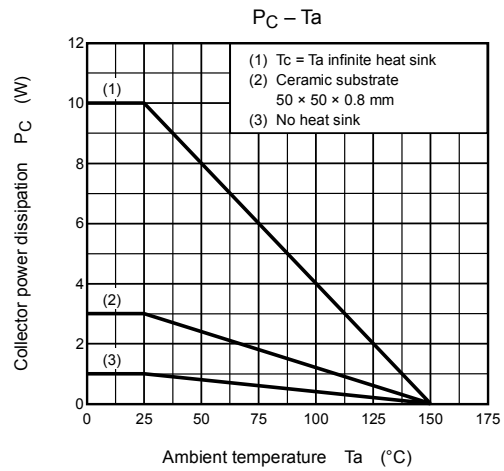
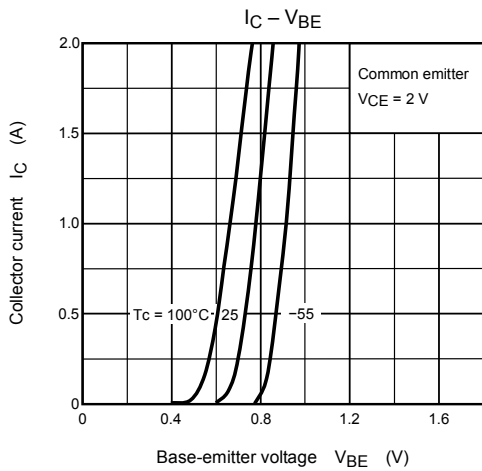
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit	
Collector cut-off current	I_{CBO}	$V_{CB} = 50 \text{ V}, I_E = 0$	—	—	1.0	μA	
Emitter cut-off current	I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$	—	—	1.0	μA	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10 \text{ mA}, I_B = 0$	50	—	—	V	
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$	70	—	240		
	$h_{FE(2)}$	$V_{CE} = 2 \text{ V}, I_B = 1.5 \text{ A}$	40	—	—		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1 \text{ A}, I_B = 0.05 \text{ A}$	—	—	0.5	V	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1 \text{ A}, I_B = 0.05 \text{ A}$	—	—	1.2	V	
Transition frequency	f_T	$V_{CE} = 2 \text{ V}, I_C = 0.5 \text{ A}$	—	80	—	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}		—	0.1	—	μs
	Storage time	t_{stg}		—	1.0	—	
	Fall time	t_f		$I_{B1} = -I_{B2} = 0.05 \text{ A},$ Duty cycle $\leq 1\%$	—	0.1	

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

Marking







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