

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

# 2SC3076

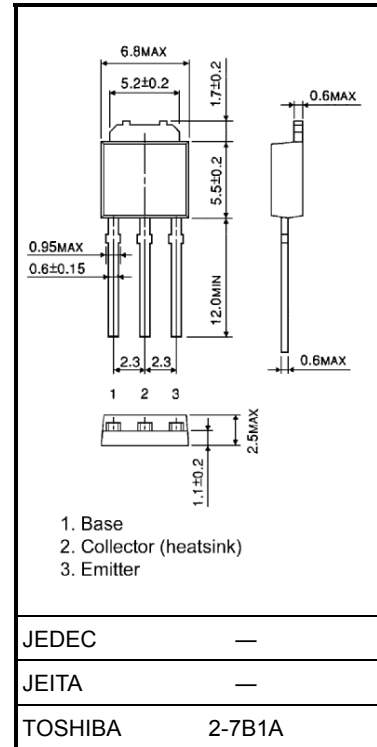
Power Amplifier Applications  
Power Switching Applications

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

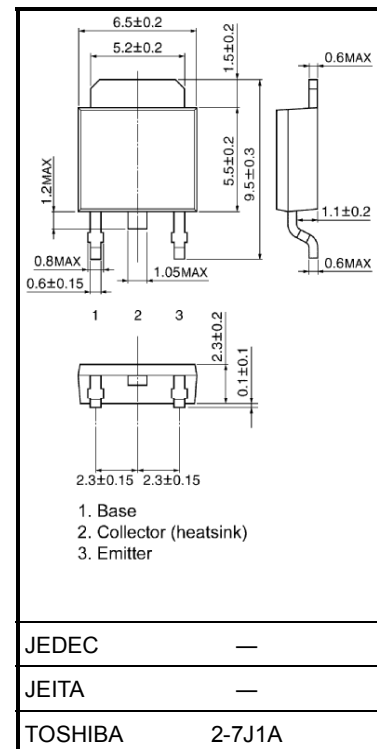
### Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristics	Symbol	Rating	Unit	
Collector-base voltage	$V_{CBO}$	50	V	
Collector-emitter voltage	$V_{CEO}$	50	V	
Emitter-base voltage	$V_{EBO}$	5	V	
Collector current	$I_C$	2	A	
Base current	$I_B$	1	A	
Collector power dissipation	$P_C$	$T_a = 25^\circ\text{C}$	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.)



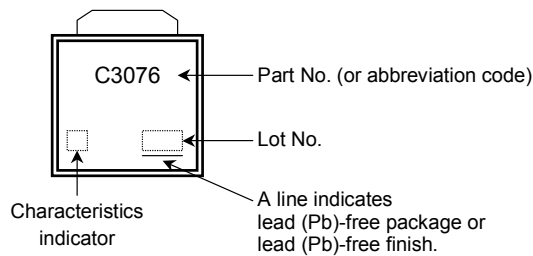
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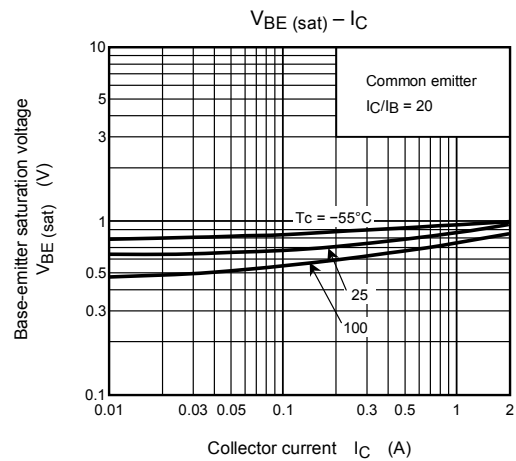
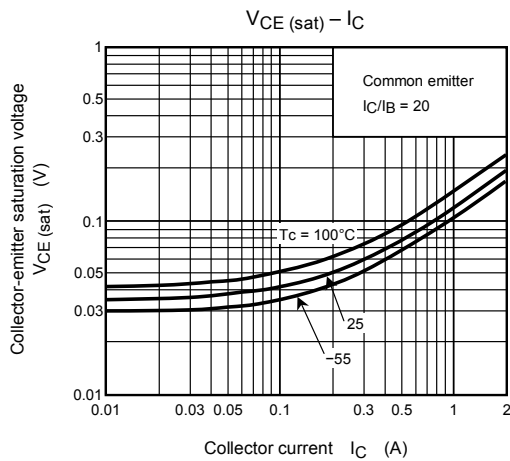
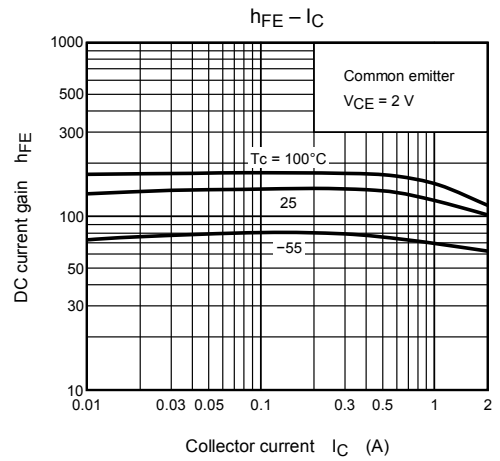
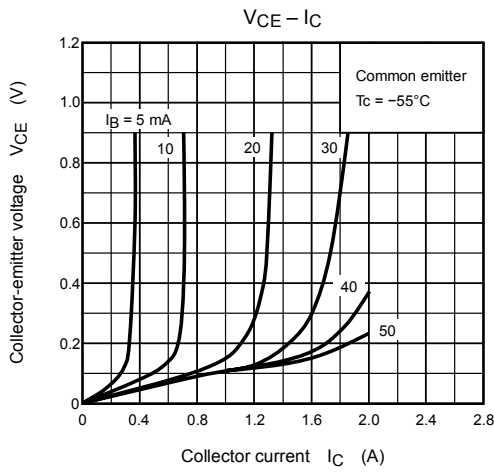
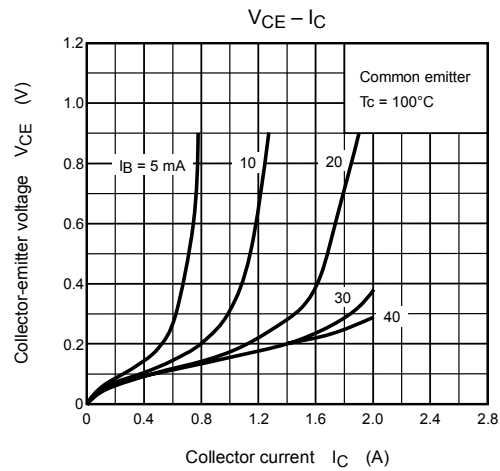
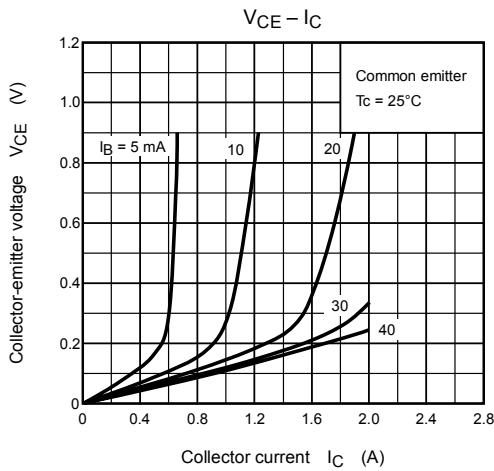
## Electrical Characteristics (Ta = 25°C)

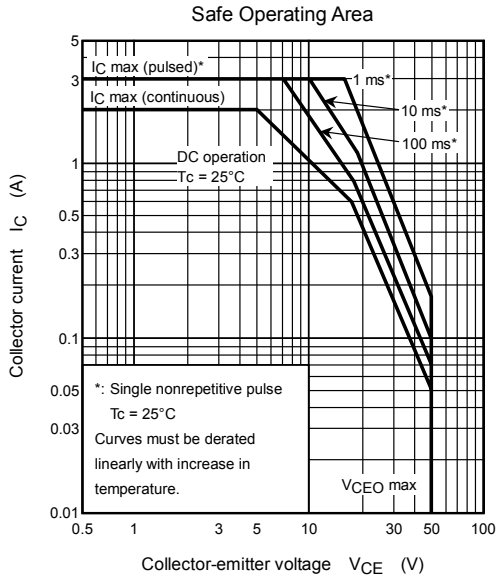
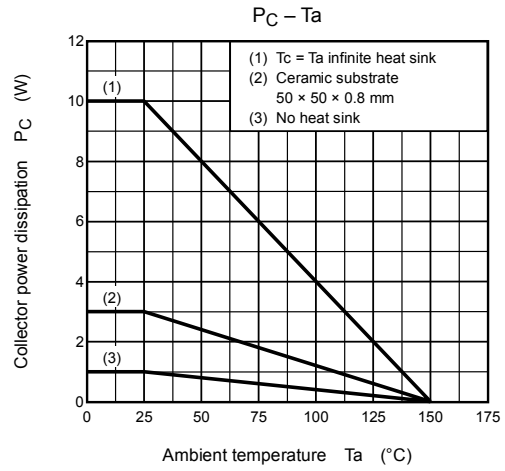
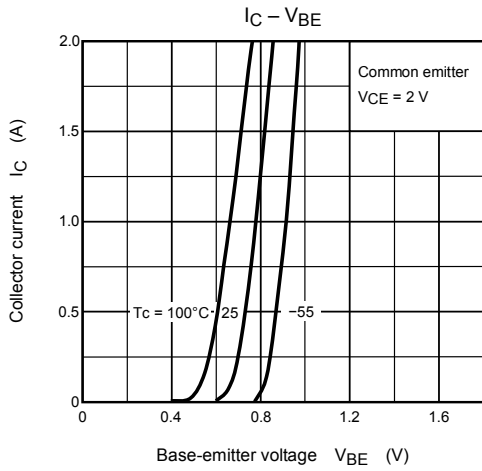
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit	
Collector cut-off current	$I_{CBO}$	$V_{CB} = 50\text{ V}, I_E = 0$	—	—	1.0	$\mu\text{A}$	
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	1.0	$\mu\text{A}$	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	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	—	$\mu\text{s}$
	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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