

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

2SA1020

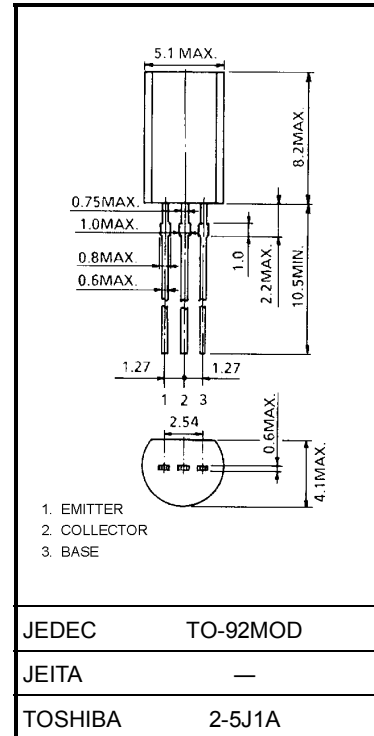
Power Amplifier Applications
Power Switching Applications

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 2SC2655

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-2	A
Collector power dissipation	P_C	900	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$



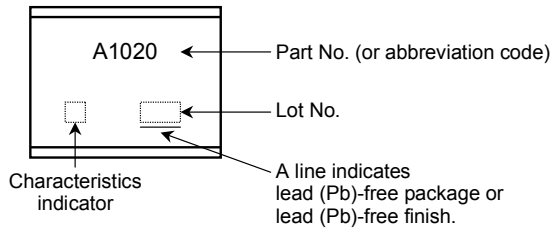
Weight: 0.36 g (typ.)

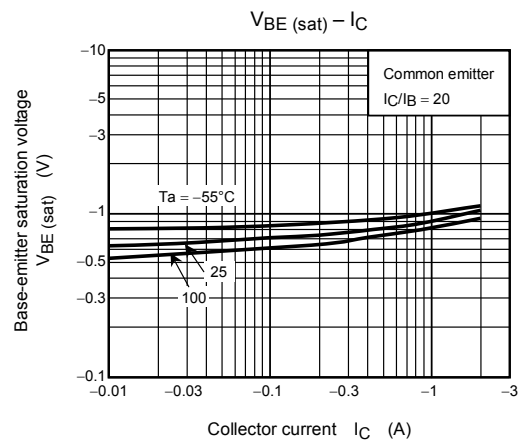
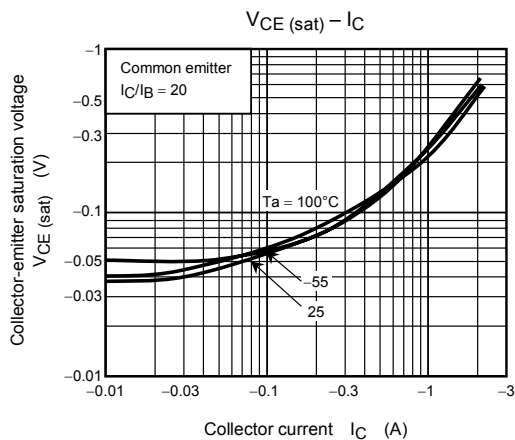
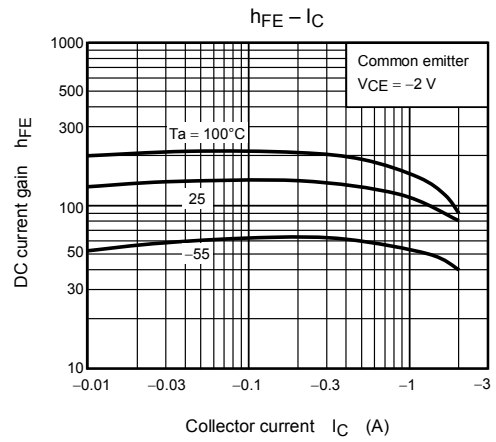
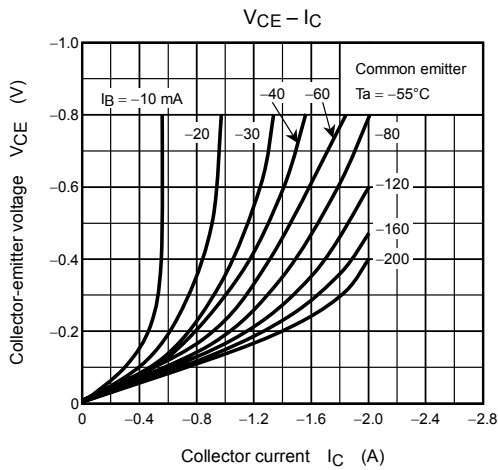
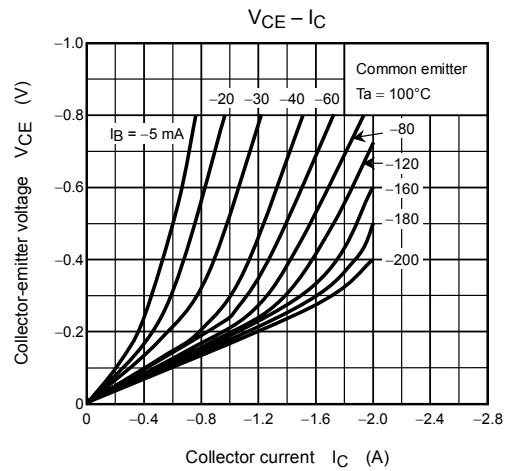
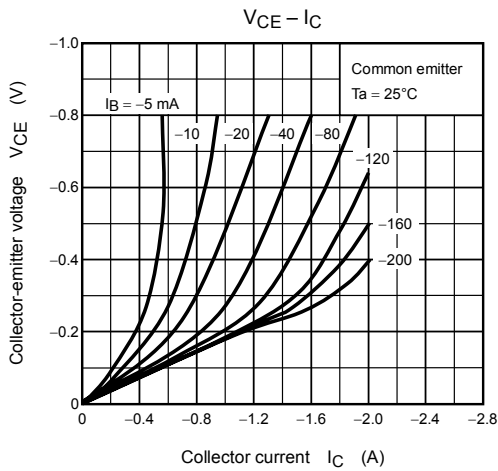
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

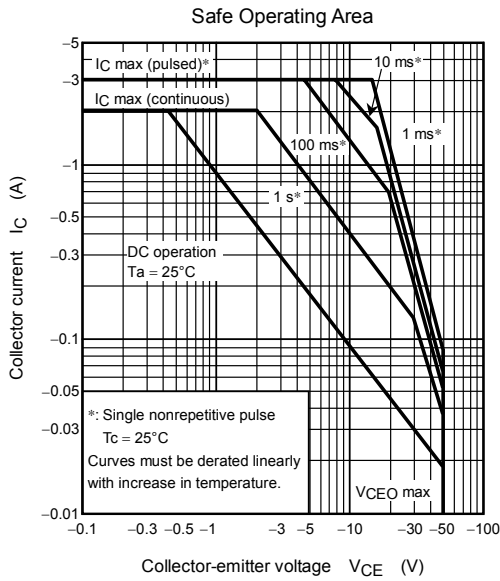
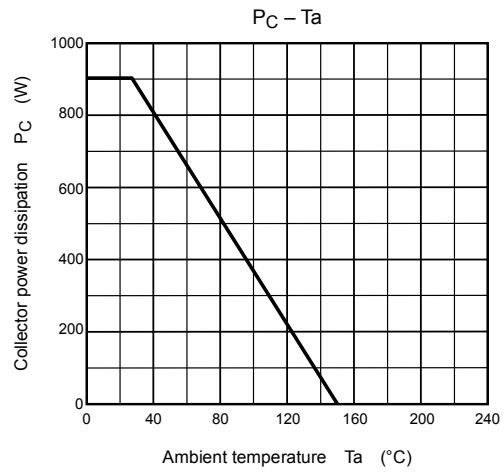
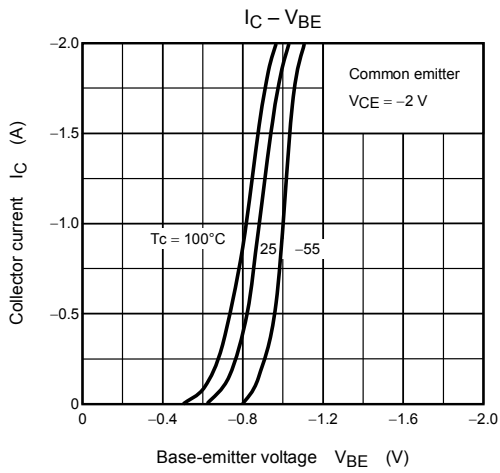
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit	
Collector cut-off current	I_{CB0}	$V_{CB} = -50\text{ V}, I_E = 0$	—	—	-1.0	μA	
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$	—	—	-1.0	μA	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-50	—	—	V	
DC current gain	$h_{FE(1)}$	$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	70	—	240		
	$h_{FE(2)}$	$V_{CE} = -2\text{ V}, I_C = -1.5\text{ A}$	40	—	—		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1\text{ A}, I_B = -0.05\text{ A}$	—	—	-0.5	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	$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	—	100	—	MHz	
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	40	—	pF	
Switching time	Turn-on time	t_{on}					μs
	Storage time	t_{stg}					
	Fall time	t_f					
			$-I_{B1} = I_{B2} = 0.05\text{ A}$ DUTY CYCLE $\leq 1\%$				

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

Marking







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