

TOSHIBA Transistor Silicon NPN Epitaxial Type

2SC2878

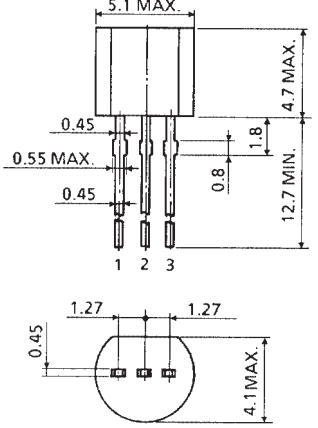
For Muting and Switching Applications

Unit: mm

- High emitter-base voltage: $V_{EBO} = 25\text{ V}$ (min)
- High reverse h_{FE} : Reverse $h_{FE} = 150$ (typ.) ($V_{CE} = -2\text{ V}$, $I_C = -4\text{ mA}$)
- Low on resistance: $R_{ON} = 1\ \Omega$ (typ.) ($I_B = 5\text{ mA}$)

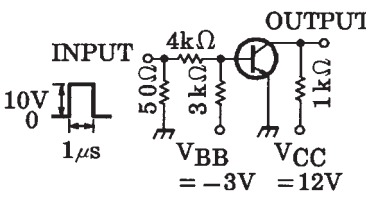
Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	20	V
Emitter-base voltage	V_{EBO}	25	V
Collector current	I_C	300	mA
Base current	I_B	60	mA
Collector power dissipation	P_C	400	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	T_{stg}	$-55\sim 125$	$^\circ\text{C}$

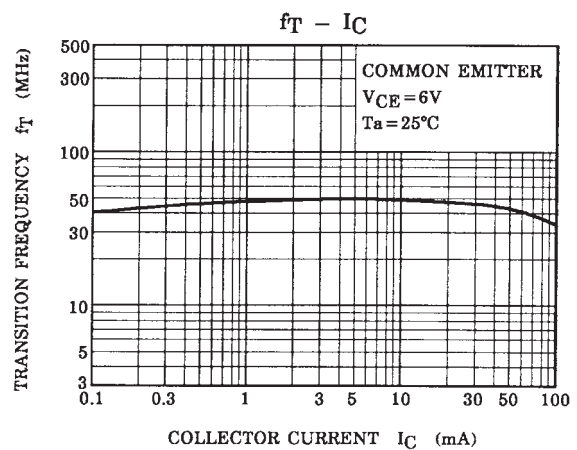
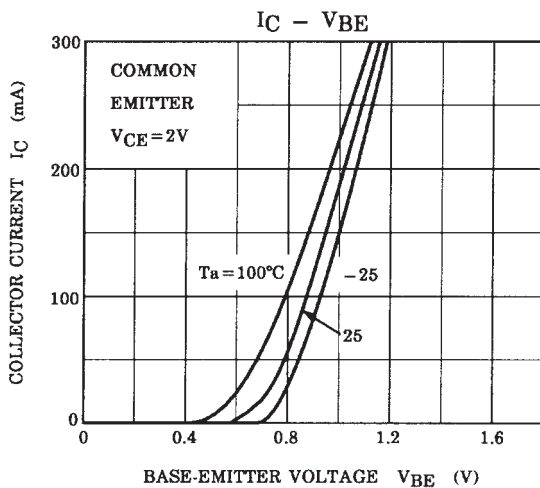
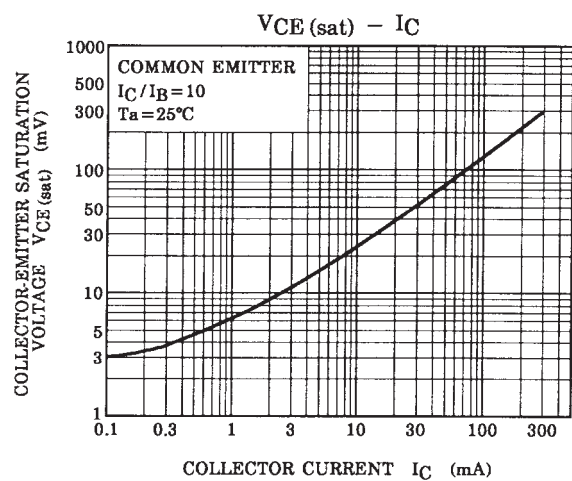
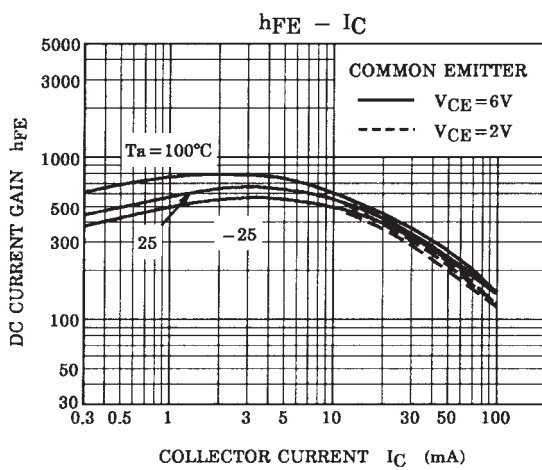
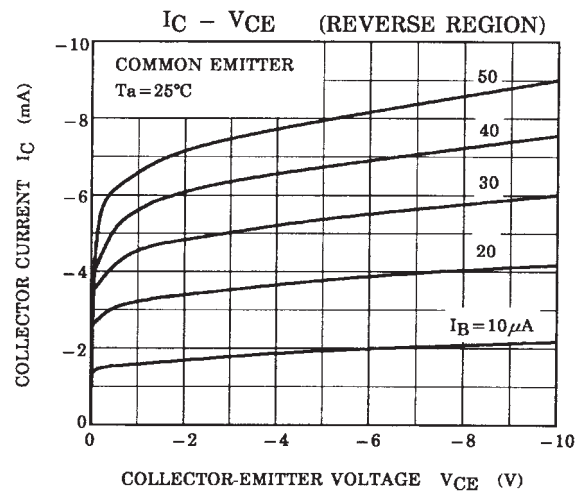
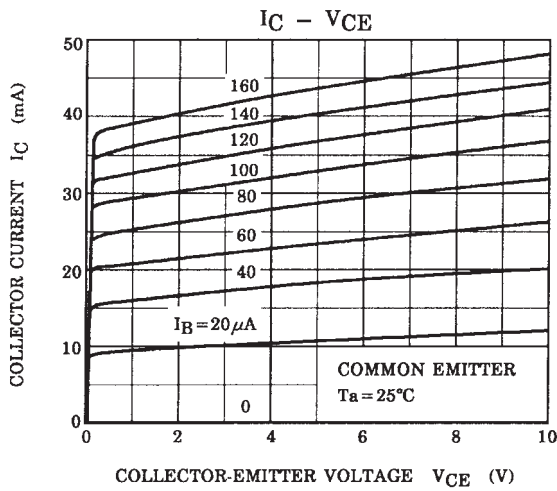
 <p>1. EMITTER 2. COLLECTOR 3. BASE</p>	
JEDEC	TO-92
JEITA	SC-43
TOSHIBA	2-5F1B

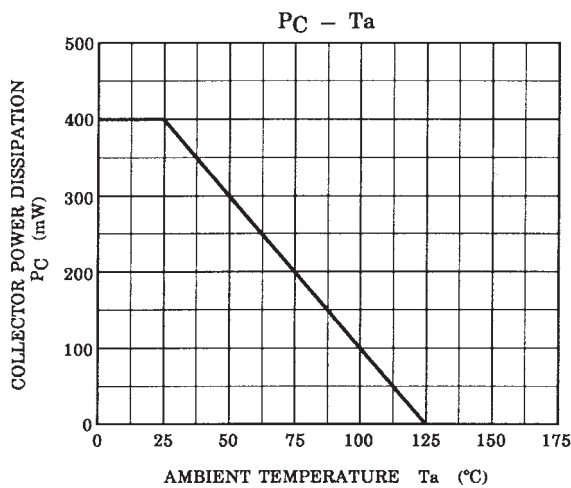
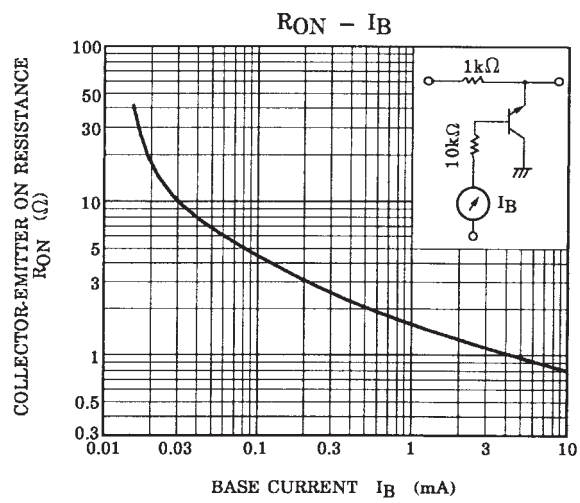
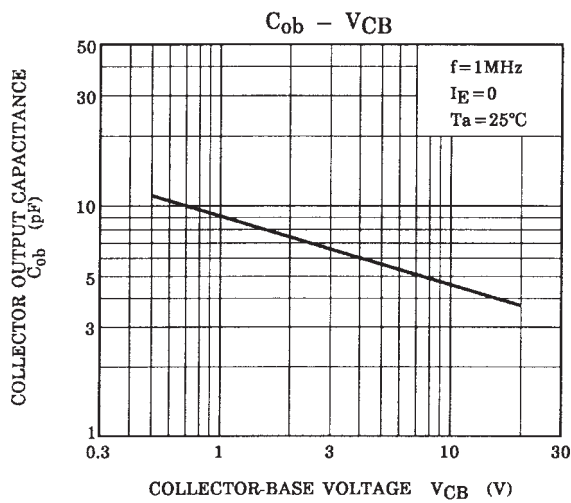
Weight: 0.21 g (typ.)

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

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = 50\text{ V}$, $I_E = 0$	—	—	0.1	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 25\text{ V}$, $I_C = 0$	—	—	0.1	μA
DC current gain		h_{FE} (Note)	$V_{CE} = 2\text{ V}$, $I_C = 4\text{ mA}$	200	—	1200	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 30\text{ mA}$, $I_B = 3\text{ mA}$	—	0.042	0.1	V
Base-emitter voltage		V_{BE}	$V_{CE} = 2\text{ V}$, $I_C = 4\text{ mA}$	—	0.61	—	V
Transition frequency		f_T	$V_{CE} = 6\text{ V}$, $I_C = 4\text{ mA}$	—	30	—	MHz
Collector output capacitance		C_{ob}	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$	—	4.8	7	pF
Switching time	Turn-on time	t_{on}	 <p>Duty cycle $\leq 2\%$</p>	—	160	—	ns
	Storage time	t_{stg}		—	500	—	
	Fall time	t_f		—	130	—	

Note: h_{FE} classification A: 200~700, B: 350~1200





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