

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

2SC4118

Audio Frequency Low Power Amplifier Applications

Driver Stage Amplifier Applications

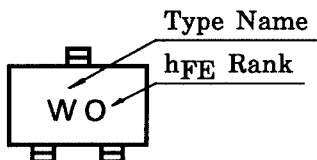
Switching Applications

- Excellent h_{FE} linearity: $h_{FE} (2) = 25$ (min) ($V_{CE} = 6$ V, $I_C = 400$ mA)
- Complementary to 2SA1588

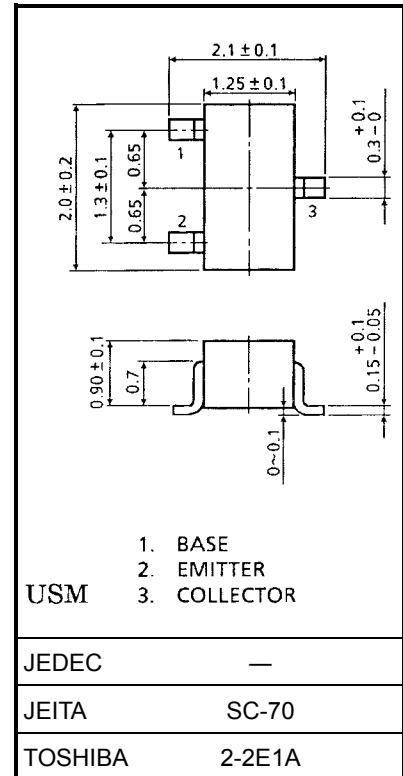
Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	35	V
Collector-emitter voltage	V_{CEO}	30	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	500	mA
Base current	I_B	50	mA
Collector power dissipation	P_C	100	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55~125	$^\circ\text{C}$

Marking



Unit: mm



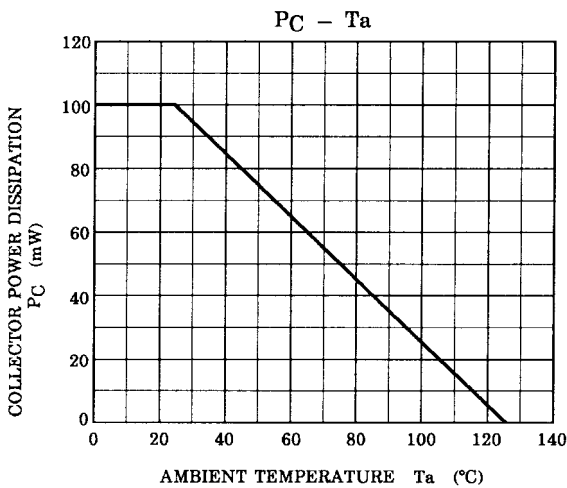
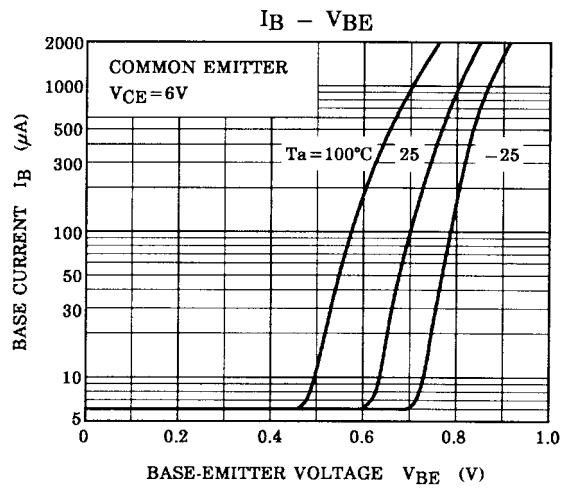
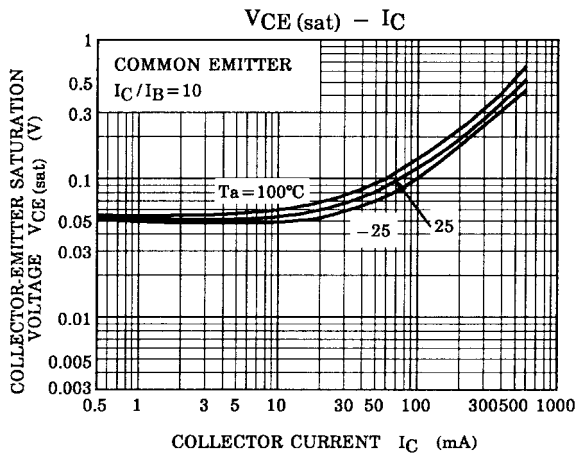
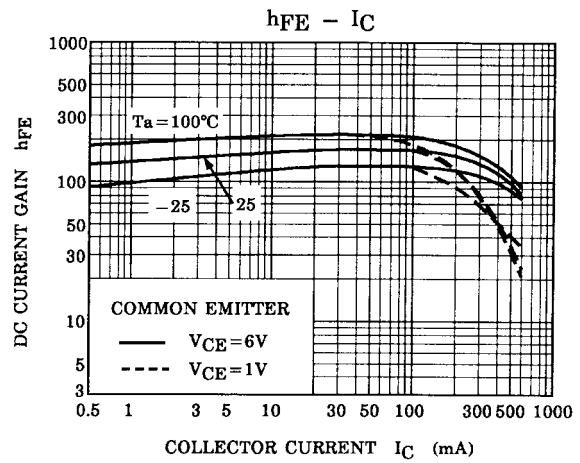
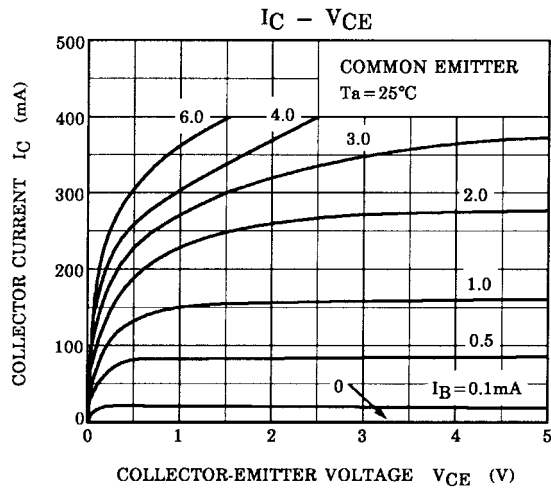
Weight: 0.006 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 35\text{ V}, I_E = 0$	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	0.1	μA
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = 1\text{ V}, I_C = 100\text{ mA}$	70	—	240	
	$h_{FE(2)}$ (Note)	$V_{CE} = 6\text{ V}, I_C = 400\text{ mA}$	25	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\text{ mA}, I_B = 10\text{ mA}$	—	0.1	0.25	V
Base-emitter voltage	V_{BE}	$V_{CE} = 1\text{ V}, I_C = 100\text{ mA}$	—	0.8	1.0	V
Transition frequency	f_T	$V_{CE} = 6\text{ V}, I_C = 20\text{ mA}$	—	300	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 6\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	7	—	pF

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

$h_{FE(2)}$ classification O: 25 (min), Y: 40 (min)



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