TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

2SA1313

Audio Frequency Low Power Amplifier Applications Driver Stage Amplifier Applications Switching Applications

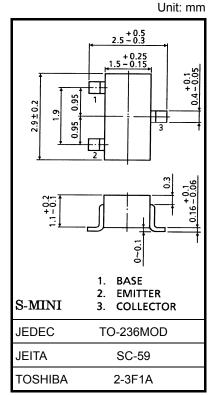
• Excellent hFE linearity: hFE (2) = 25 (min)

at $V_{CE} = -6 \text{ V}$, $I_C = -400 \text{ mA}$

- High voltage: $V_{CEO} = -50 \text{ V} (\text{min})$
- Complementary to 2SC3325
- Small package

Absolute Maximum Ratings (Ta = 25°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	Ι _C	-500	mA
Base current	Ι _Β	-50	mA
Collector power dissipation	P _C	200	mW
Junction temperature	Tj	150	°C
Storage temperature range	T _{stg}	-55~150	°C

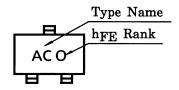


Weight: 0.012 g (typ.)

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Marking



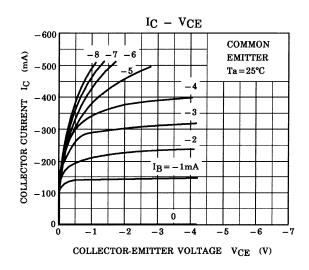
Electrical Characteristics (Ta = 25°C)

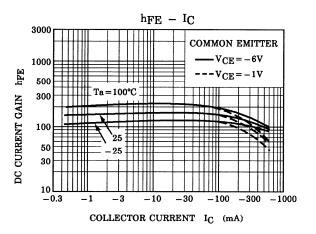
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = -50 \text{ V}, \text{ I}_{E} = 0$	_	_	-0.1	μA
Emitter cut-off current	I _{EBO}	$V_{EB} = -5 V, I_C = 0$	_	_	-0.1	μA
DC current gain –	h _{FE (1)} (Note)	$V_{CE} = -1 V$, $I_C = -100 mA$	70		240	
	h _{FE (2)} (Note)	$V_{CE} = -6 \text{ V}, \text{ I}_{C} = -400 \text{ mA}$	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}	$V_{CE} = -1 \text{ V}, \text{ I}_{C} = -100 \text{ mA}$	_	-0.8	-1.0	V
Transition frequency	f _T	$V_{CE} = -6 \text{ V}, \text{ I}_{C} = -20 \text{ mA}$	_	200	_	MHz
Collector output capacitance	C _{ob}	$V_{CB} = -6 \text{ V}, \text{ I}_E = 0, \text{ f} = 1 \text{ MHz}$	_	13		pF

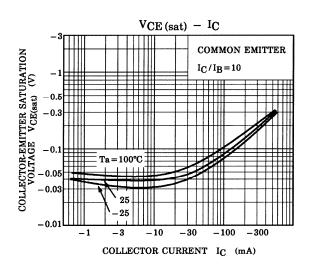
Note: hFE (1) classification O: 70~140, Y: 120~240

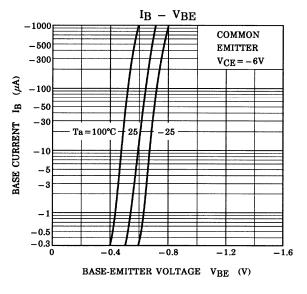
hFE (2) classification O: 25 (min), Y: 40 (min)

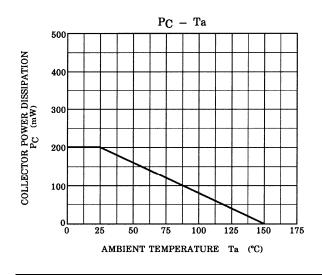
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