

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT process)

2SC2365

Low Frequency Power Amplifier Applications
Power Switching Applications

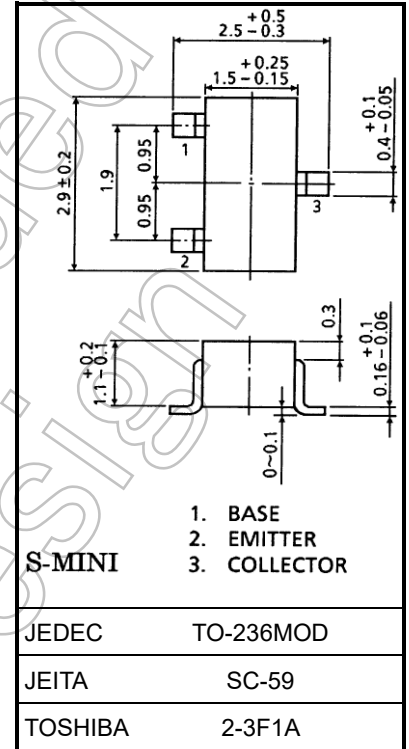
- High DC current gain: $h_{FE(1)} = 100$ to 320
- Low saturation voltage: $V_{CE(sat)} = 0.4$ V (max)
($I_C = 500$ mA, $I_B = 20$ mA)
- Complementary to 2SA1298

1. Absolute Maximum Ratings (Note) ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	25	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	800	mA
Base current	I_B	160	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

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).

Unit: mm



Weight: 0.012 g (typ.)

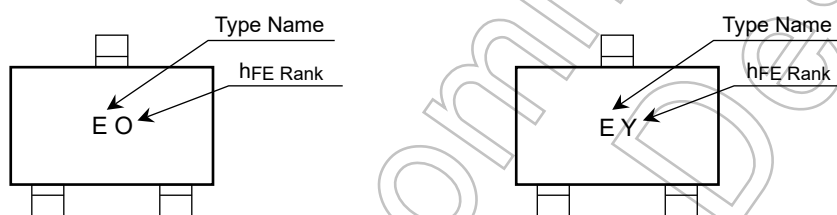
Start of commercial production
1982-10

2. Electrical Characteristics (Note) (Ta = 25°C)

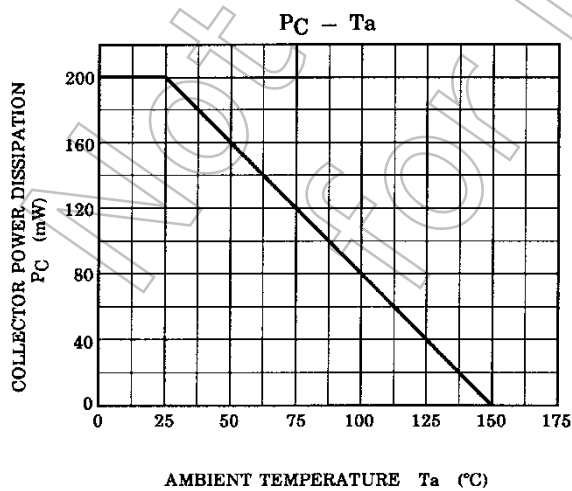
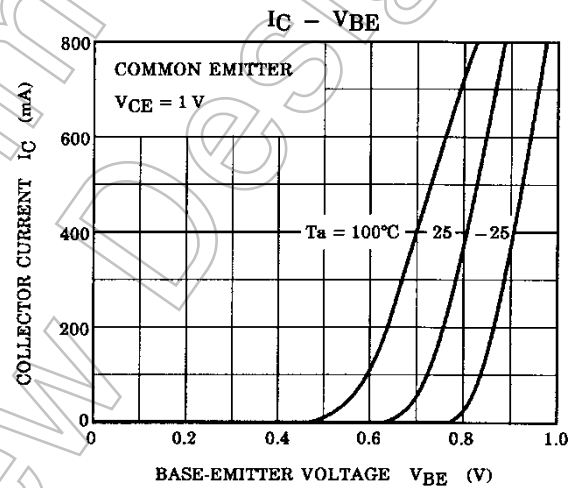
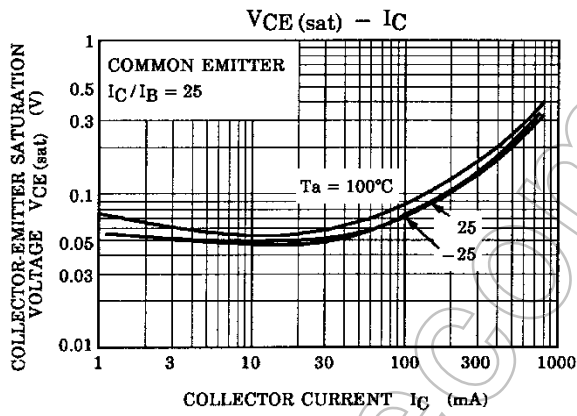
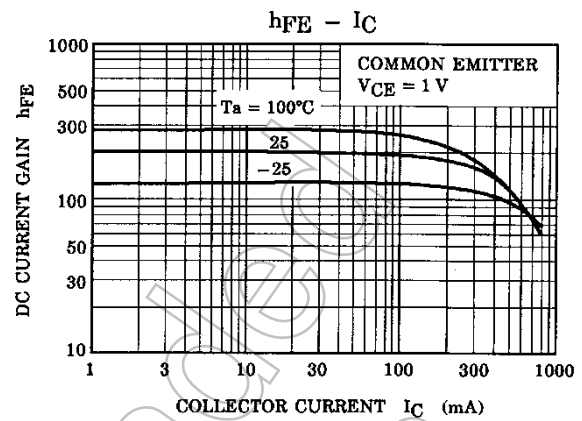
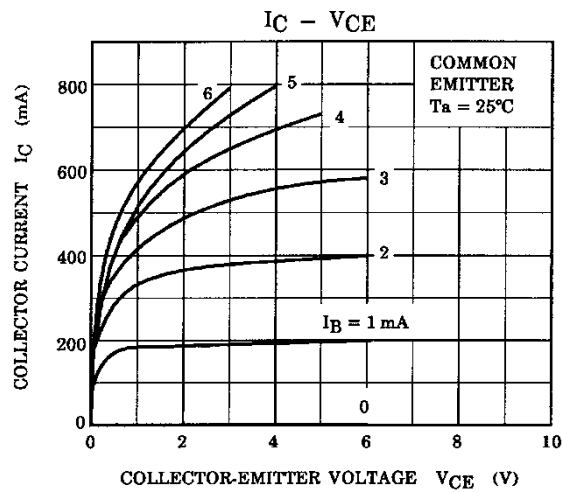
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 30\text{ V}, I_E = 0\text{ A}$	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0\text{ mA}$	—	—	0.1	μA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0\text{ mA}$	25	—	—	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 0.1\text{ mA}, I_C = 0\text{ mA}$	5	—	—	V
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = 1\text{ V}, I_C = 100\text{ mA}$	100	—	320	
	$h_{FE(2)}$	$V_{CE} = 1\text{ V}, I_C = 800\text{ mA}$	40	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{ mA}, I_B = 20\text{ mA}$	—	—	0.4	V
Base-emitter voltage	V_{BE}	$V_{CE} = 1\text{ V}, I_C = 10\text{ mA}$	0.5	—	0.8	V
Transition frequency	f_T	$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$	—	120	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0\text{ A}, f = 1\text{ MHz}$	—	13	—	pF

Note: $h_{FE(1)}$ classification O: 100 to 200, Y: 160 to 320

3. Marking



4. Characteristics Curves (Note)



Note: The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

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