

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

2SC2235

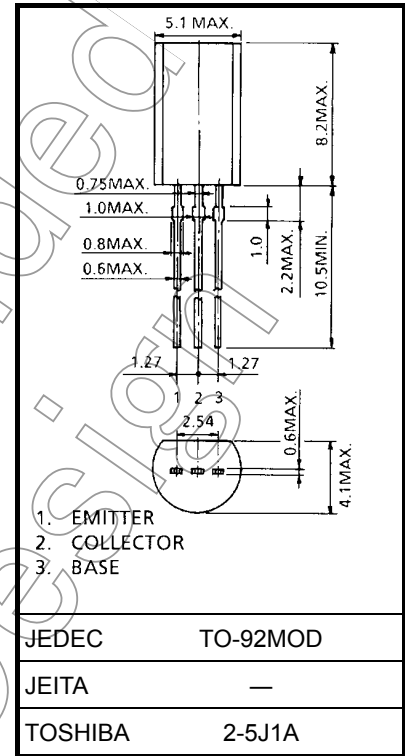
Audio Power Amplifier Applications
 Driver Stage Amplifier Applications

Unit: mm

- Complementary to 2SA965.

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V _{CBO}	120	V
Collector-emitter voltage	V _{CEO}	120	V
Emitter-base voltage	V _{EBO}	5	V
Collector current	I _C	800	mA
Base current	I _B	80	mA
Collector power dissipation	P _C	900	mW
Junction temperature	T _j	150	°C
Storage temperature range	T _{stg}	-55 to 150	°C



Weight: 0.36 g (typ.)

Note1: 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).

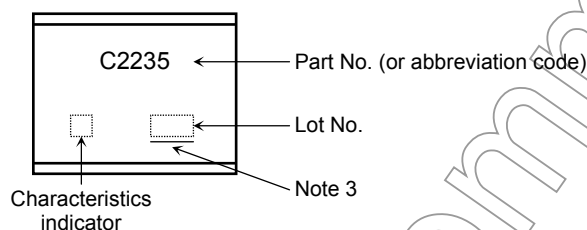
Not for New

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 120\text{ V}, I_E = 0$	—	—	100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	100	nA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	120	—	—	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 1\text{ mA}, I_C = 0$	5	—	—	V
DC current gain	h_{FE} (Note 2)	$V_{CE} = 5\text{ V}, I_C = 100\text{ mA}$	80	—	240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{ mA}, I_B = 50\text{ mA}$	—	—	1.0	V
Base-emitter voltage	V_{BE}	$V_{CE} = 5\text{ V}, I_C = 500\text{ mA}$	—	—	1.0	V
Transition frequency	f_T	$V_{CE} = 5\text{ V}, I_C = 100\text{ mA}$	—	120	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	—	30	pF

Note 2: h_{FE} classification O: 80 to 160, Y: 120 to 240

Marking

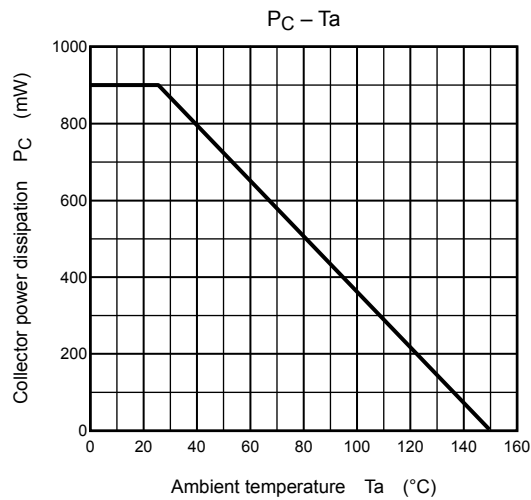
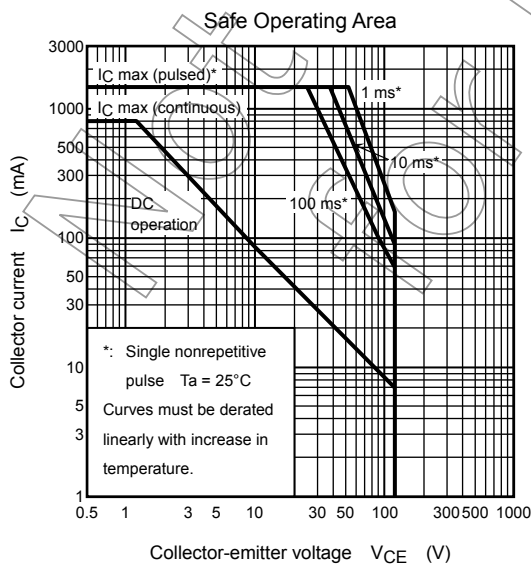
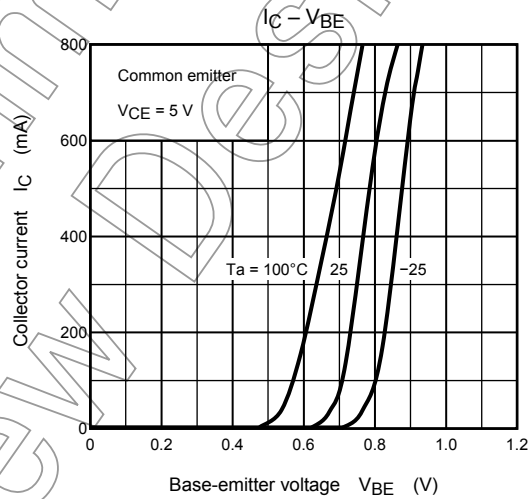
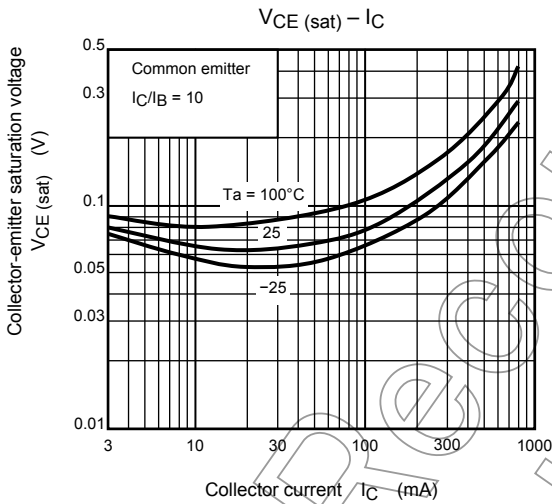
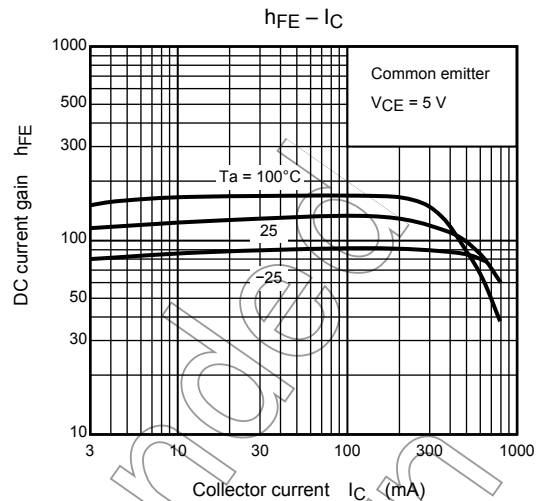
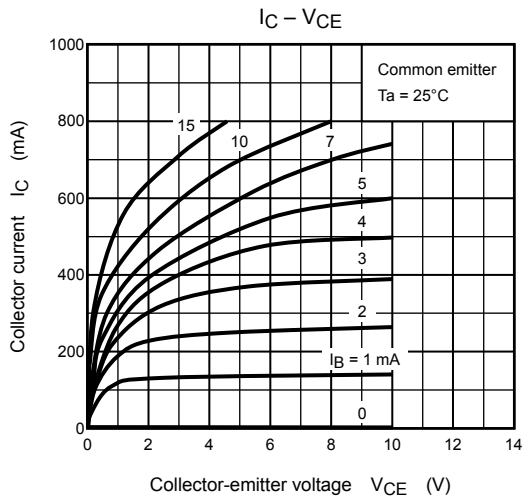


Note 3: A line under a Lot No. identifies the indication of product Labels.

Not underlined: $[[Pb]]/INCLUDES > MCV$

Underlined: $[[G]]/RoHS COMPATIBLE$ or $[[G]]/RoHS [[Pb]]$

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.



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