

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	2SA965-O(TE6,F,M)
Manufacturer:	Toshiba Semiconductor and Storage
Package:	TO-226-3, TO-92-3 Long Body
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/toshiba-semiconductor-and-storage-2sa965-o-te6-f-m.html>

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Contact Information

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Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

2SA965

Power Amplifier Applications

Driver-Stage Amplifier Applications

Unit: mm

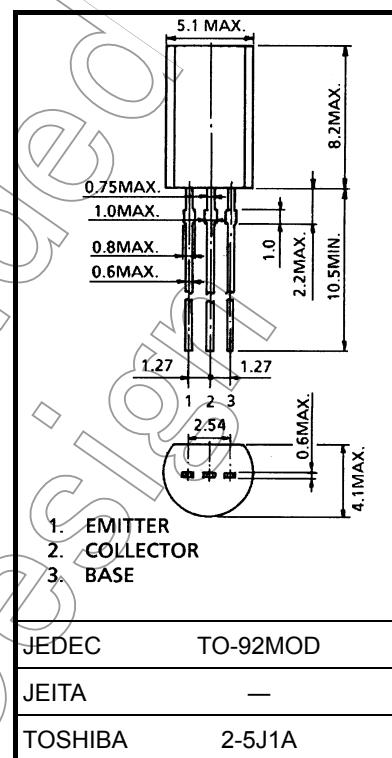
- Complementary to 2SC2235.

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

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).



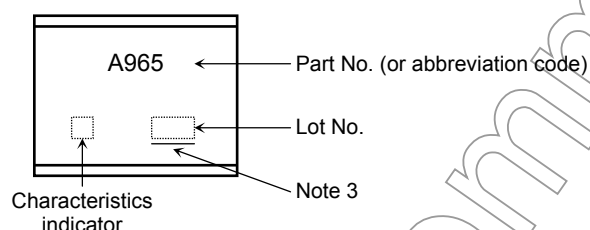
Weight: 0.36 g (typ.)

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}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	—	40	pF

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

Marking

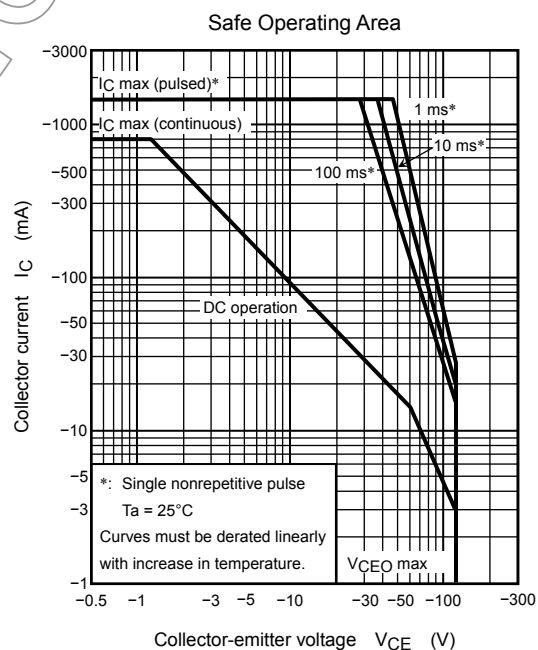
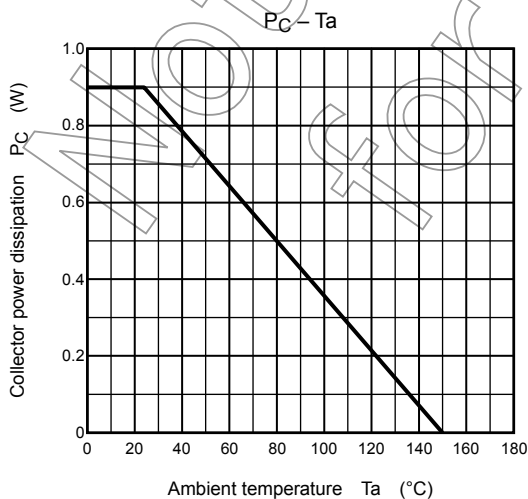
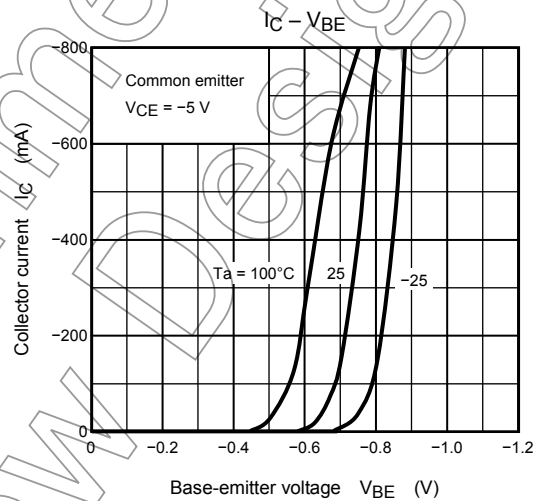
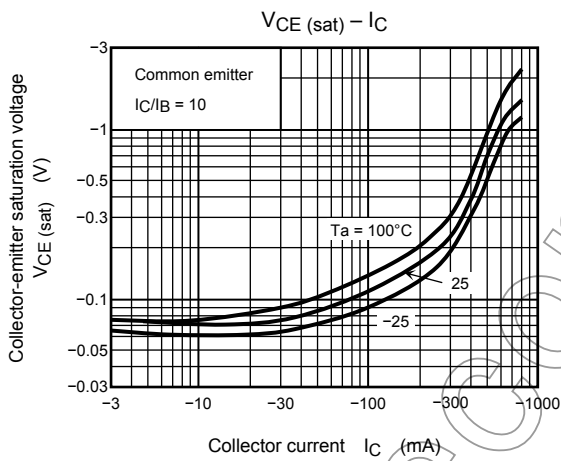
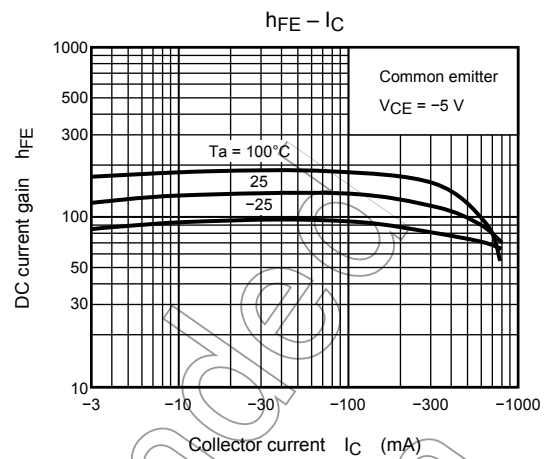
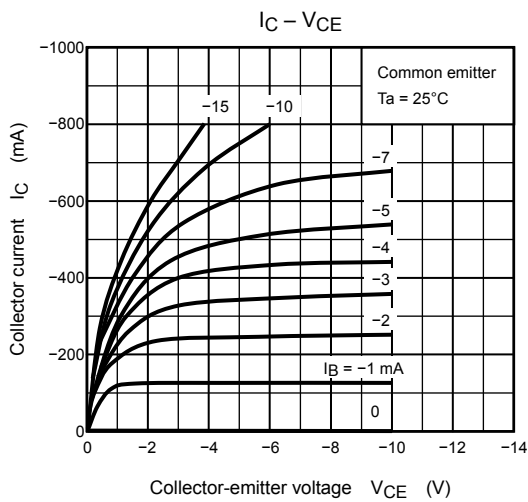


Note 3: A line under a Lot No. identifies the indication of product Labels.

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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