TOSHIBA Transistor Silicon PNP Triple Diffused Type (PCT process)

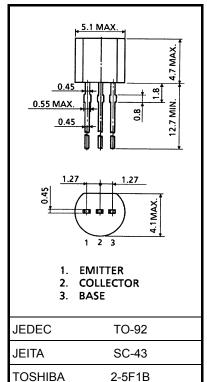
2SA1091

High Voltage Control Applications Plasma Display, Nixie Tube Driver Applications Cathode Ray Tube Brightness Control Applications

- High voltage: $V_{CBO} = -300 \text{ V}$, $V_{CEO} = -300 \text{ V}$
- Low saturation voltage: V_{CE} (sat) = -0.5 V (max)
- Small collector output capacitance: $C_{ob} = 6 \text{ pF}$ (typ.)
- Complementary to 2SC2551.

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit	
Collector-base voltage	V _{CBO}	-300	V	
Collector-emitter voltage	V _{CEO}	-300	V	
Emitter-base voltage	V _{EBO}	-8	V	
Collector current	Ι _C	-100	mA	
Base current	Ι _Β	-20	mA	
Collector power dissipation	P _C	400	mW	
Junction temperature	Tj	150	°C	
Storage temperature range	T _{stg}	-55~150	°C	



Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in

Weight: 0.21 g (typ.)

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).

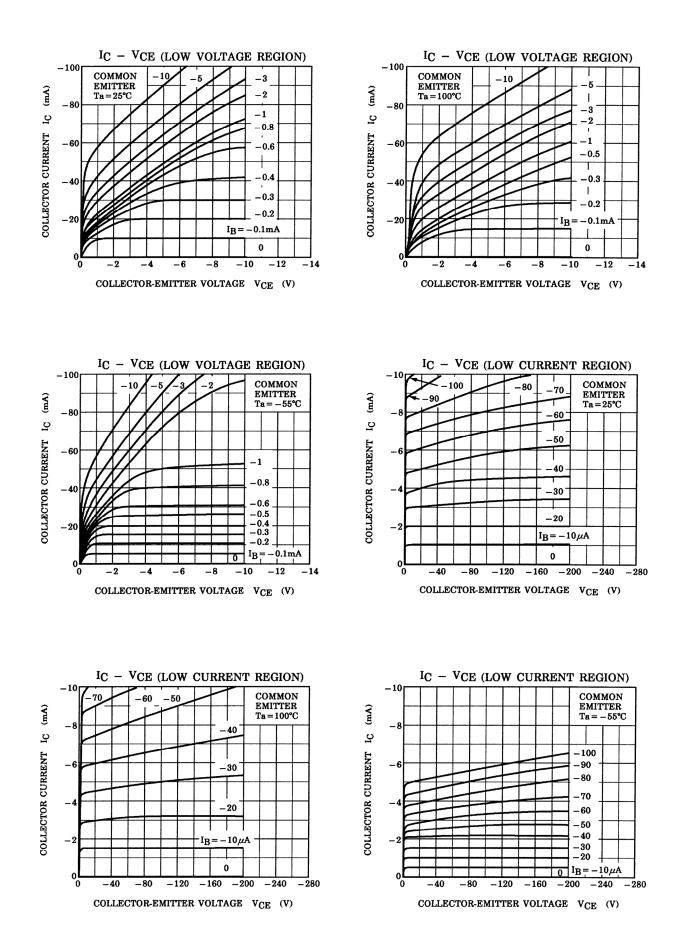
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = -300 \text{ V}, \text{ I}_{E} = 0$	_	_	-0.1	μA
Emitter cut-off current	I _{EBO}	$V_{EB} = -8 V, I_C = 0$	_	_	-0.1	μA
Collector-base breakdown voltage	V (BR) CBO	$I_{C} = -0.1 \text{ mA}, I_{E} = 0$	-300	_	—	V
Collector-emitter breakdown voltage	V (BR) CEO	$I_{C} = -1 \text{ mA}, I_{B} = 0$	-300	_	—	V
DC current gain	h _{FE (1)} (Note)	$V_{CE} = -10 \text{ V}, I_{C} = -20 \text{ mA}$	30	_	150	
	h _{FE (2)}	$V_{CE} = -10 \text{ V}, \text{ I}_{C} = -1 \text{ mA}$	20	_	_	
Collector-emitter saturation voltage	V _{CE (sat)}	$I_C = -20$ mA, $I_B = -2$ mA	_	_	-0.5	V
Base-emitter saturation voltage	V _{BE (sat)}	$I_C = -20$ mA, $I_B = -2$ mA	_	_	-1.2	V
Transition frequency	f _T	$V_{CE} = -10 \text{ V}, \text{ I}_{C} = -20 \text{ mA}$	40	60	_	MHz
Collector output capacitance	C _{ob}	$V_{CB} = -20 \text{ V}, \text{ I}_{E} = 0, \text{ f} = 1 \text{ MHz}$	_	6	8	pF

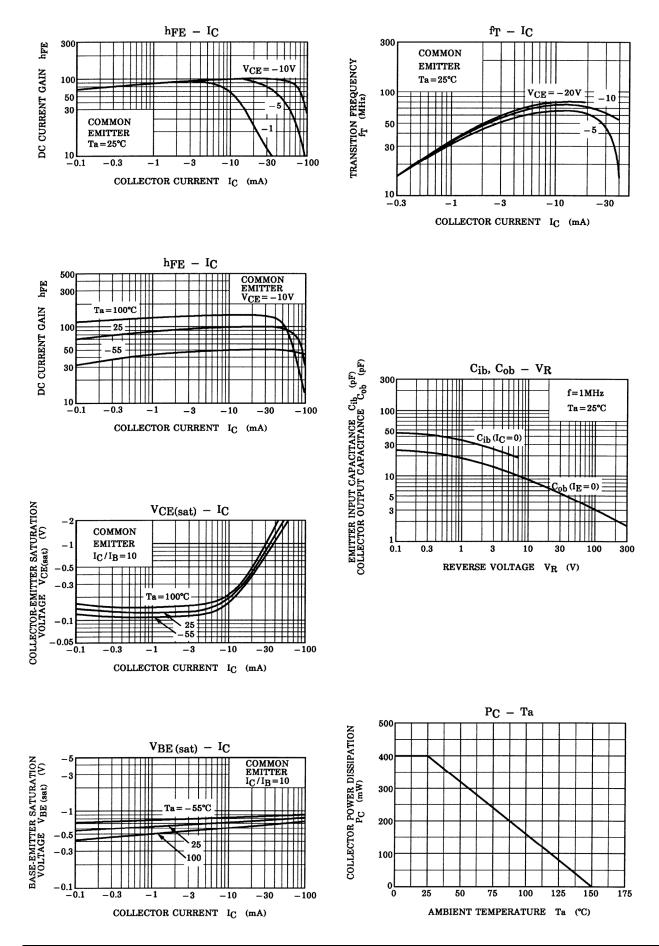
Note: hFE (1) classification R: 30~90 O: 50~150

Unit: mm

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20070701-EN GENERAL

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