

TOSHIBA Transistor Silicon NPN Triple Diffused Planar Type

2SC4686, 2SC4686A

TV Dynamic Focus Applications

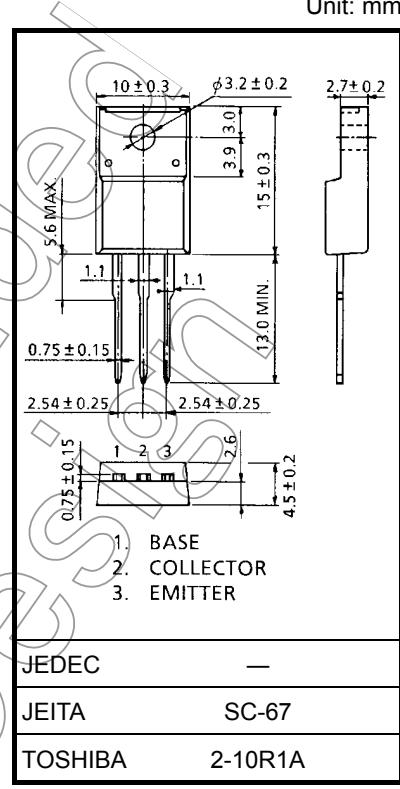
High-Voltage Switching Applications

High-Voltage Amplifier Applications

- High voltage: $V_{CEO} = 1200$ V (max)(2SC4686A)
- Small collector output capacitance: $C_{ob} = 2.2$ pF (typ.) ($V_{CB} = 100$ V)

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

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	1500	V
Collector-emitter voltage	2SC4686	V_{CEO}	1000	V
	2SC4686A		1200	
Emitter-base voltage		V_{EBO}	5	V
Collector current	DC	I_C	50	mA
	Pulse	I_{CP}	100	
Base current		I_B	25	mA
Collector power dissipation	$T_a = 25^\circ\text{C}$	P_C	2	W
	$T_c = 25^\circ\text{C}$		10	
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature range		T_{stg}	-55 to 150	$^\circ\text{C}$



Weight: 1.7 g (typ.)

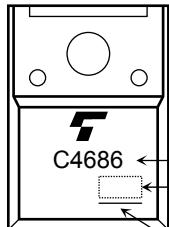
Note 1: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) 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.).

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I _{CBO}	V _{CB} = 1200 V, I _E = 0	—	—	1.0	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 5 V, I _C = 0	—	—	10	μA
Collector-base breakdown voltage	V _{(BR) CBO}	I _C = 100 μA, I _E = 0	1500	—	—	V
Collector-emitter breakdown voltage 2SC4686	V _{(BR) CEO}	I _C = 1 mA, I _B = 0	1000	—	—	V
2SC4686A			1200	—	—	
DC current gain	h _{FE}	V _{CE} = 5 V, I _C = 3 mA	15	—	60	
Collector-emitter saturation voltage	V _{CE} (sat)	I _C = 10 mA, I _B = 2 mA	—	0.16	1.5	V
Base-emitter saturation voltage	V _{BE} (sat)	I _C = 10 mA, I _B = 2 mA	—	0.7	1.5	V
Transition frequency	f _T	V _{CE} = 10 V, I _C = 3 mA	—	5.5	—	MHz
Collector output capacitance	C _{ob}	V _{CB} = 100 V, f = 1 MHz, I _E = 0	—	2.2	—	pF

Marking



Part No. (or abbreviation code) *1
Lot No.
Note 2

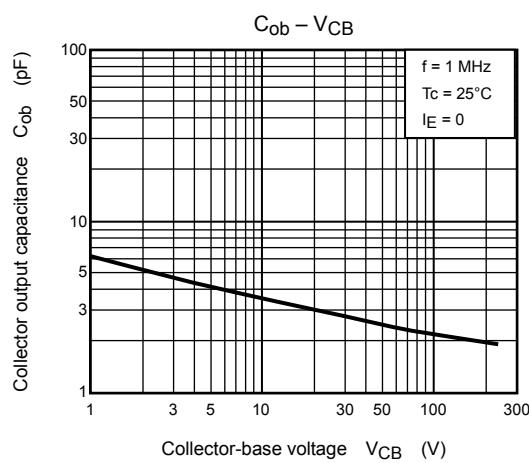
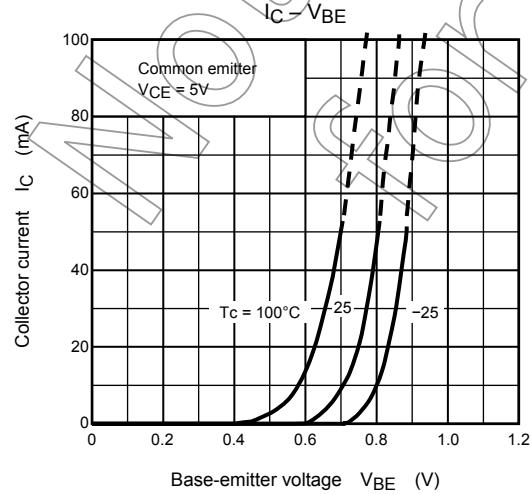
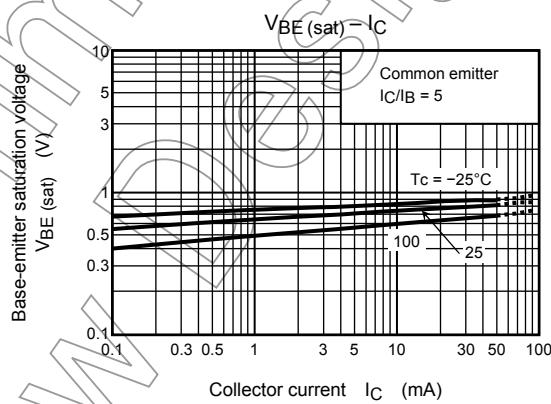
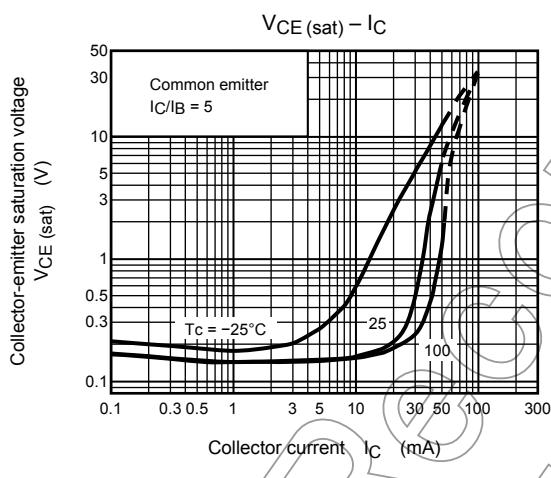
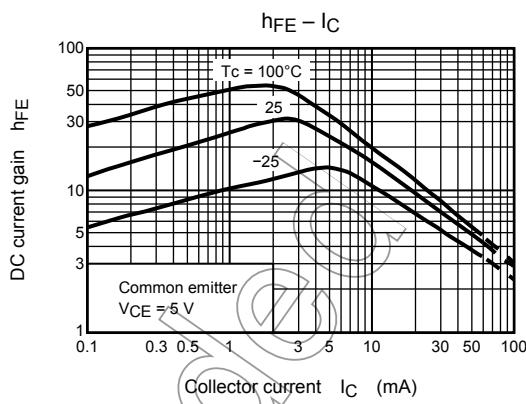
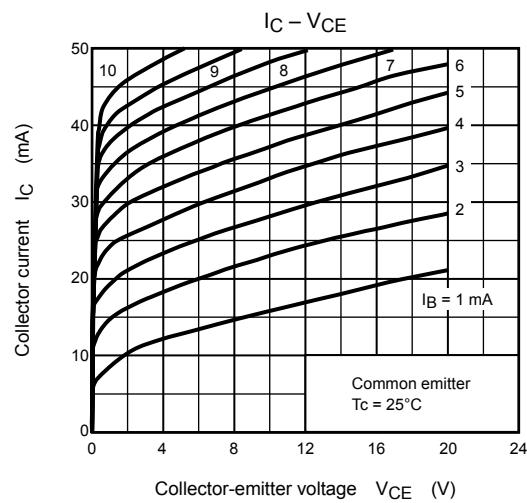
	Part No. (or abbreviation code)	Part No.
*1	C4686	2SC4686
	C4686A	2SC4686A

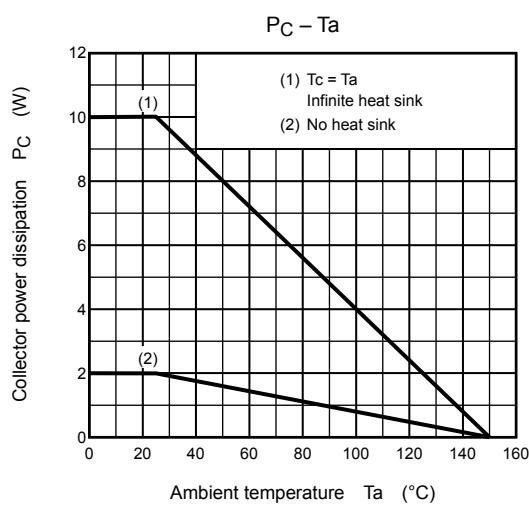
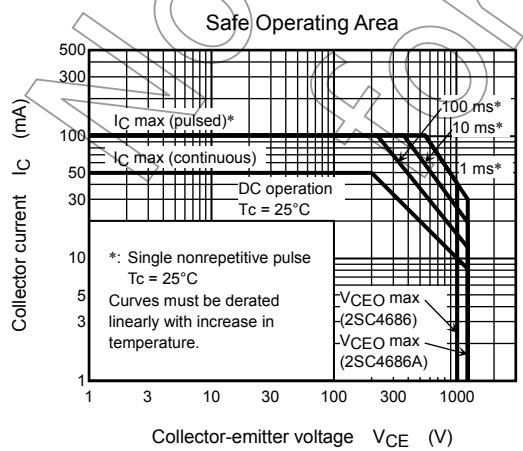
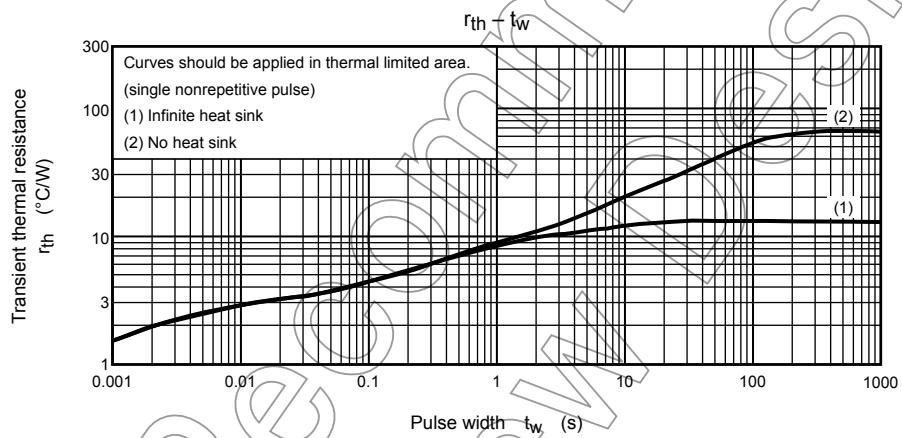
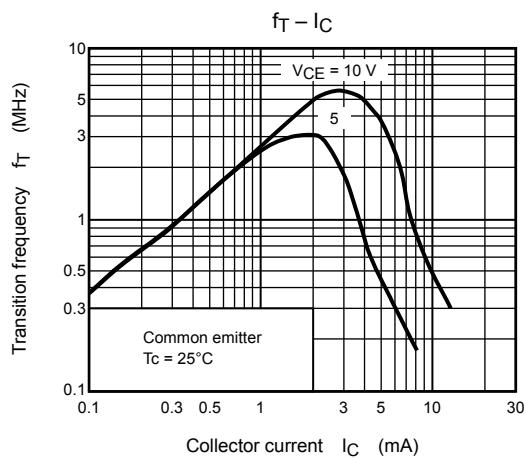
Note 2: A line under a Lot No. identifies the indication of product Labels.

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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