

TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC4688

Power Amplifier Applications

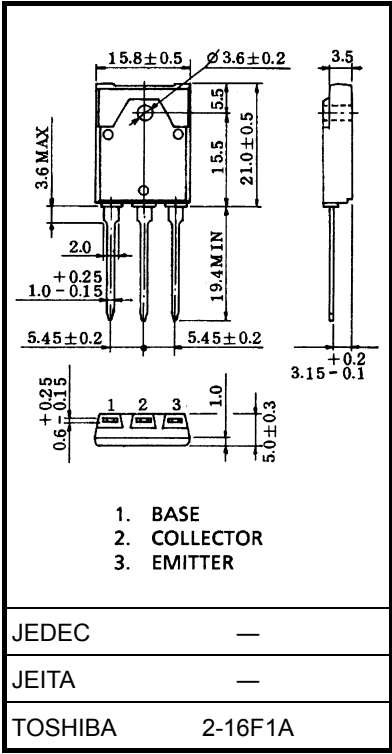
- Complementary to 2SA1803
- Suitable for use in 40-W high fidelity audio amplifier's output stage

Absolute Maximum Ratings (Tc = 25°C)

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V _{CBO}	80	V
Collector-emitter voltage		V _{CEO}	80	V
Emitter-base voltage		V _{EBO}	5	V
Collector current	DC	I _C	6	A
	Pulse	I _{CP}	12	
Base current		I _B	0.6	A
Collector power dissipation (Tc = 25°C)		P _C	55	W
Junction temperature		T _j	150	°C
Storage temperature range		T _{stg}	-55 to 150	°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



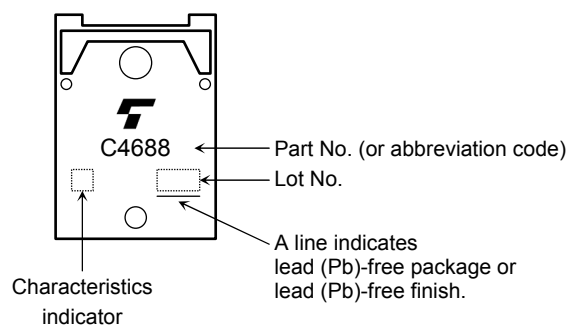
Weight: 5.8 g (typ.)

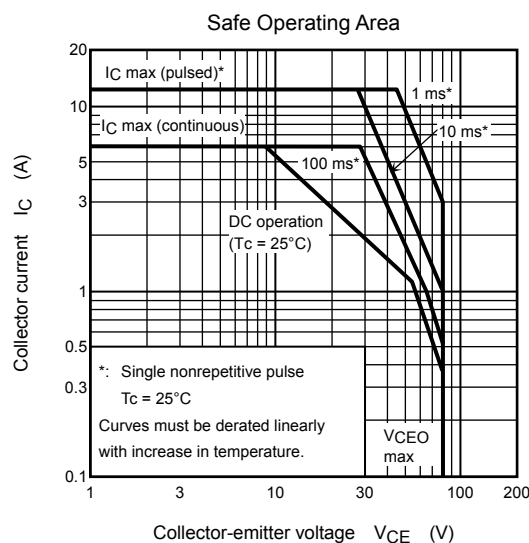
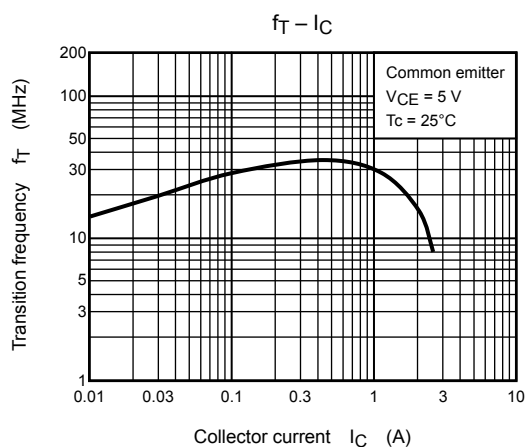
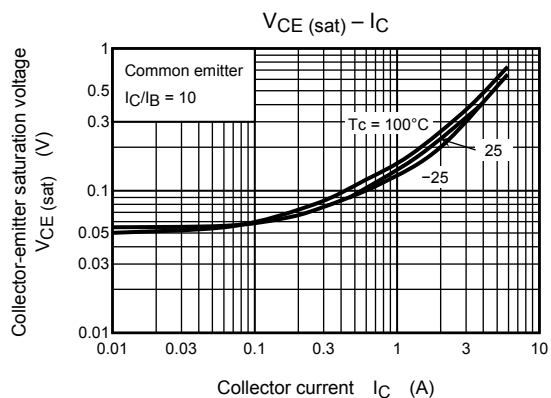
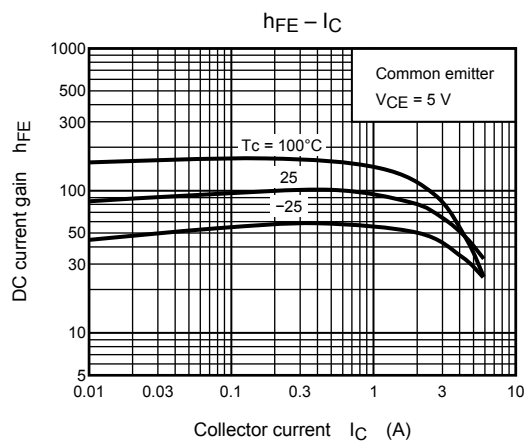
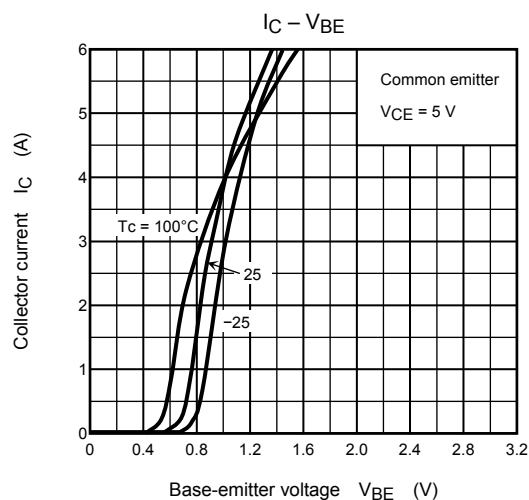
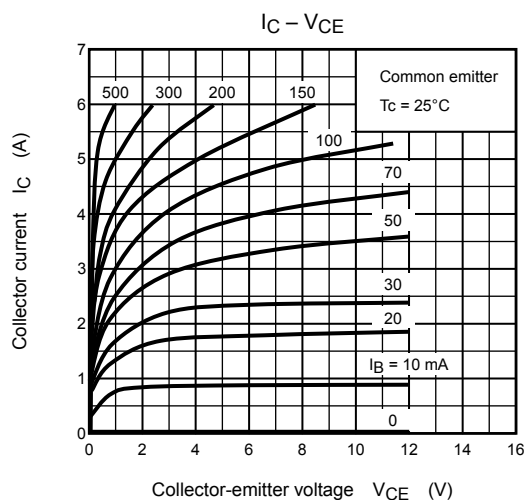
Electrical Characteristics (Tc = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 80\text{ V}, I_E = 0$	—	—	5.0	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	5.0	μA
Collector-emitter breakdown voltage	$V_{(BR) CEO}$	$I_C = 50\text{ mA}, I_B = 0$	80	—	—	V
DC current gain	$h_{FE (1)}$ (Note)	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	55	—	160	
	$h_{FE (2)}$	$V_{CE} = 5\text{ V}, I_C = 3\text{ A}$	35	75	—	
Collector-emitter saturation voltage	$V_{CE (sat)}$	$I_C = 5\text{ A}, I_B = 0.5\text{ A}$	—	0.45	2.0	V
Base-emitter voltage	V_{BE}	$V_{CE} = 5\text{ V}, I_C = 3\text{ A}$	—	0.92	1.5	V
Transition frequency	f_T	$V_{CE} = 5\text{ V}, I_C = 1\text{ A}$	—	30	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	105	—	pF

Note: $h_{FE (1)}$ classification R: 55 to 110, O: 80 to 160

Marking





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