TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC4688

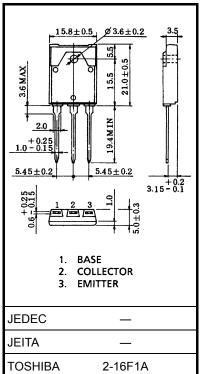
Power Amplifier Applications

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	Ι _C	6	A	
	Pulse	I _{CP}	12		
Base current		Ι _Β	0.6	А	
Collector power dissipation		P _C	55	W	
(Tc = 25°C)			55		
Junction temperature		Tj	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

Weight: 5.8 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).

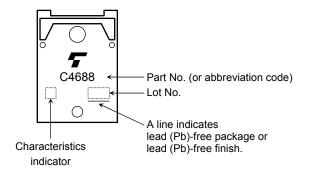
Unit: mm

Electrical Characteristics (Tc = 25°C)

Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	V _{CB} = 80 V, I _E = 0	—	_	5.0	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 5 V, I _C = 0	_	_	5.0	μA
Collector-emitter breakdown voltage	V (BR) CEO	I _C = 50 mA, I _B = 0	80	—	_	V
DC current gain	h _{FE (1)} (Note)	V _{CE} = 5 V, I _C = 1 A	55	—	160	
	h _{FE (2)}	V _{CE} = 5 V, I _C = 3 A	35	75	_	
Collector-emitter saturation voltage	V _{CE (sat)}	I _C = 5 A, I _B = 0.5 A	-	0.45	2.0	V
Base-emitter voltage	V _{BE}	V _{CE} = 5 V, I _C = 3 A	_	0.92	1.5	V
Transition frequency	f _T	V _{CE} = 5 V, I _C = 1 A	_	30	_	MHz
Collector output capacitance	C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	_	105	_	pF

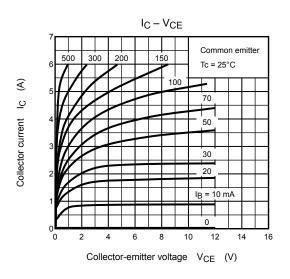
Note: h_{FE (1)} classification R: 55 to 110, O: 80 to 160

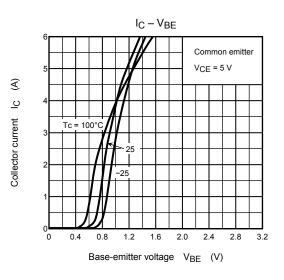
Marking

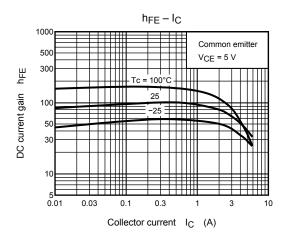


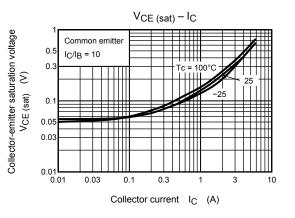
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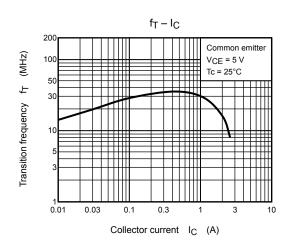
TOSHIBA

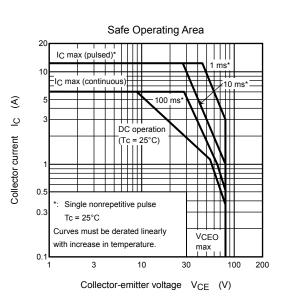












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RESTRICTIONS ON PRODUCT USE

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