TOSHIBA Transistor Silicon PNP Triple Diffused Type

2SB1640

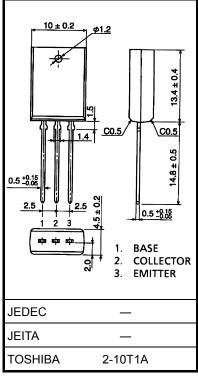
Audio Frequency Power Amplifier

Unit: mm

- Low saturation voltage: VCE (sat) = -1.5 V (max) (IC = -2 A, IB = -0.2 A)
- Collector metal (fin) is covered with mold region.
- Complementary to 2SD2525

Absolute Maximum Ratings (Ta = 25°C)

Characteristics		Symbol	Rating	Unit	
Collector-base voltage		V_{CBO}	-60	V	
Collector-emitter voltage		V _{CEO}	-60	V	
Emitter-base voltage		V _{EBO}	-7	V	
Collector current	DC	IC	-3	Α	
	Pulse	I _{CP}	-6		
Base current		Ι _Β	-0.5	Α	
Collector power dissipation		PC	1.8	W	
Junction temperature		Tj	150	°C	
Storage temperature range		T _{stg}	−55 to 150	°C	



Weight: 1.5 g (typ.)

Note: Using continuously under heavy loads (e.g. the application of high

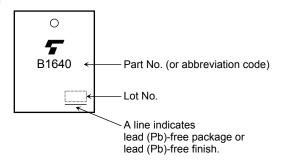
temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

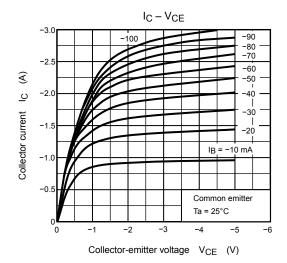
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

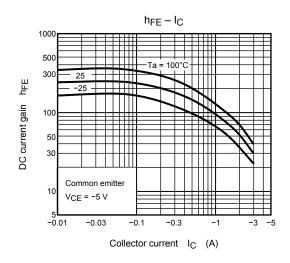
Electrical Characteristics (Ta = 25°C)

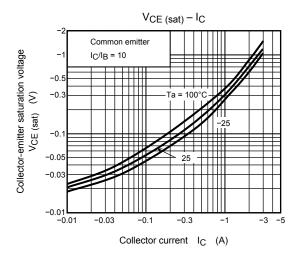
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	V _{CB} = -60 V, I _E = 0	_	_	-10	μΑ
Emitter cut-off current	I _{EBO}	V _{EB} = -7 V, I _C = 0	_	_	-10	μA
Collector-emitter breakdown voltage	V (BR) CEO	$I_C = -50 \text{ mA}, I_B = 0$	-60	_	_	V
DC current gain	h _{FE (1)}	$V_{CE} = -5 \text{ V}, I_{C} = -0.5 \text{ A}$	100	_	320	
	h _{FE (2)}	V _{CE} = -5 V, I _C = -2 A	15	_	_	
Collector-emitter saturation voltage	V _{CE} (sat)	I _C = -2 A, I _B = -0.2 A	_	-0.1	-1.5	V
Base-emitter voltage	V _{BE}	$V_{CE} = -5 \text{ V}, I_{C} = -0.5 \text{ A}$	_	-0.75	-1.0	V
Transition frequency	f _T	$V_{CE} = -5 \text{ V}, I_{C} = -0.5 \text{ A}$	_	9	_	MHz
Collector output capacitance	C _{ob}	V _{CB} = -10 V, I _E = 0, f = 1 MHz	_	50	-	pF

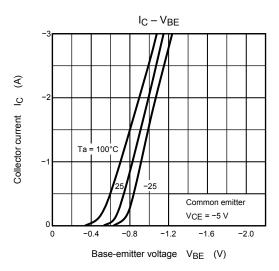
Marking

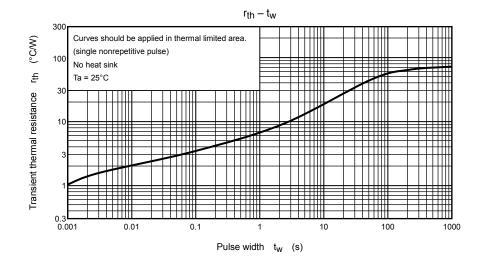


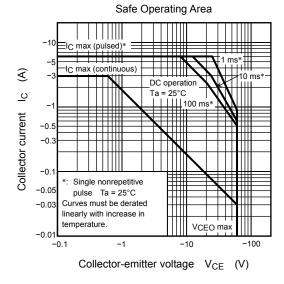


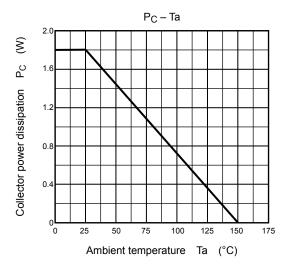












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