

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

2SA1356

Audio Power Amplifier Applications

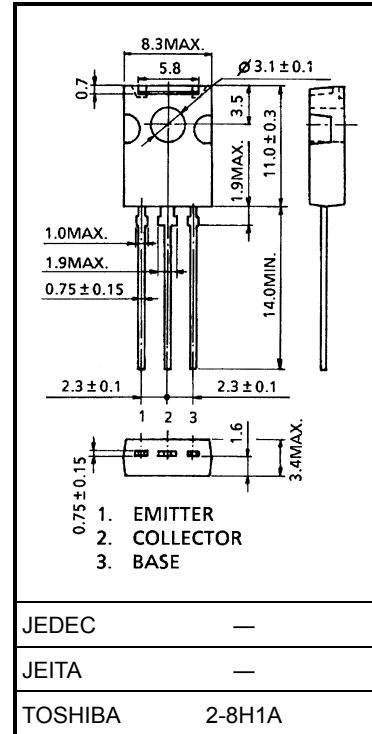
- Low saturation voltage: $V_{CE(sat)} = -0.32\text{ V (typ.)}$
($I_C = -500\text{ mA}$, $I_B = -50\text{ mA}$)
- High collector power dissipation: $P_C = 1.2\text{ W (Ta = 25°C)}$
- Complementary to 2SC3419

Absolute Maximum Ratings (Tc = 25°C)

Characteristics	Symbol	Rating	Unit	
Collector-base voltage	V_{CBO}	-40	V	
Collector-emitter voltage	V_{CEO}	-40	V	
Emitter-base voltage	V_{EBO}	-5	V	
Collector current	I_C	-800	mA	
Base current	I_B	-80	mA	
Collector power dissipation		$T_a = 25°C$	1.2	W
		$T_c = 25°C$	5	
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



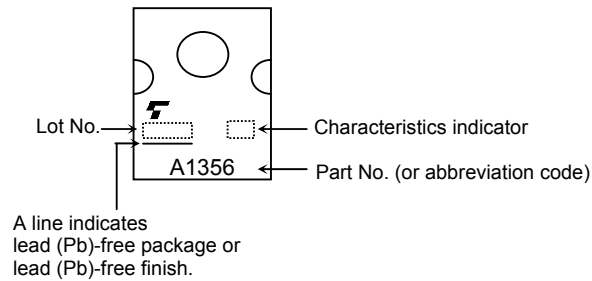
Weight: 0.82 g (typ.)

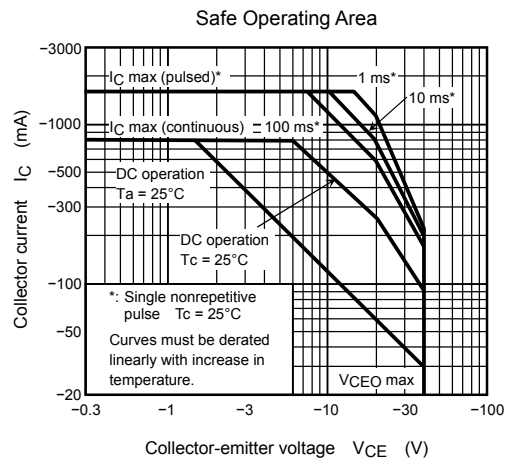
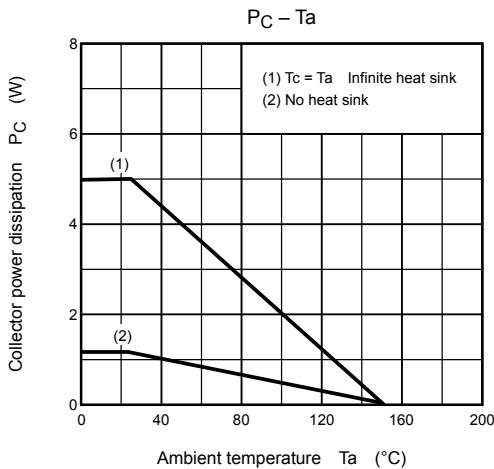
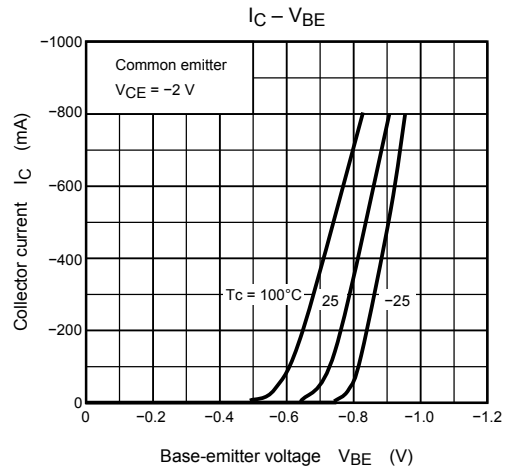
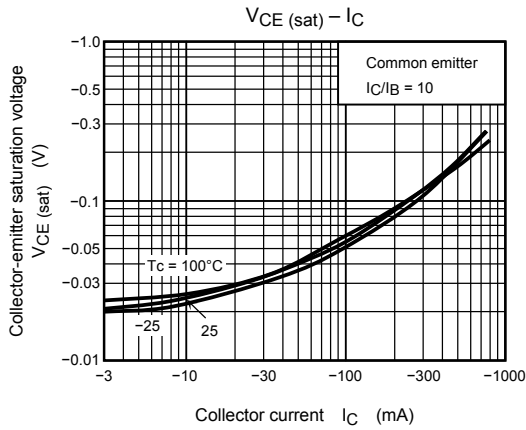
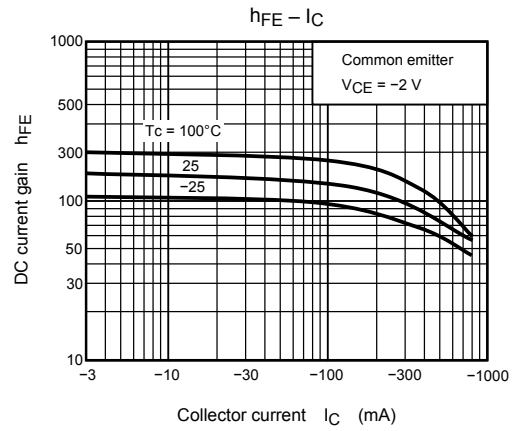
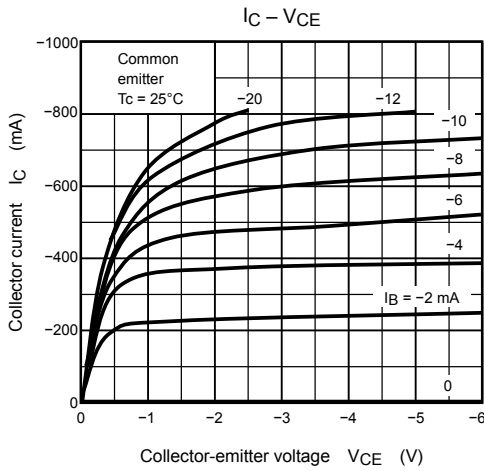
Electrical Characteristics (Tc = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = -40\text{ V}, I_E = 0$	—	—	-1.0	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$	—	—	-1.0	μA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-40	—	—	V
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = -2\text{ V}, I_C = -50\text{ mA}$	70	—	240	
	$h_{FE(2)}$	$V_{CE} = -2\text{ V}, I_C = -800\text{ mA}$	13	50	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{ mA}, I_B = -50\text{ mA}$	—	-0.32	-0.8	V
Base-emitter voltage	V_{BE}	$V_{CE} = -2\text{ V}, I_C = -500\text{ mA}$	—	—	-1.3	V
Transition frequency	f_T	$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	50	100	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	20	—	pF

Note: $h_{FE(1)}$ classification O: 70 to 140, Y: 120 to 240

Marking





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