

2SA1356

Audio Power Amplifier Applications

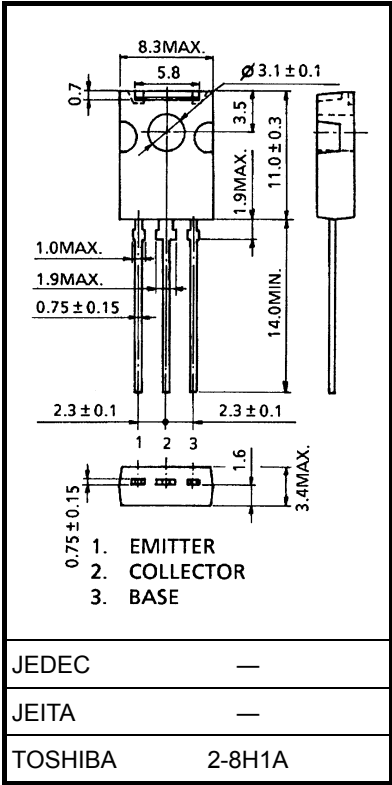
- Low saturation voltage: $V_{CE(sat)} = -0.32\text{ V (typ.)}$
($I_C = -500\text{ mA}$, $I_B = -50\text{ mA}$)
- High collector power dissipation: $P_C = 1.2\text{ W (Ta = 25°C)}$
- Complementary to 2SC3419

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	Ta = 25°C	P_C	1.2	W
	Tc = 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



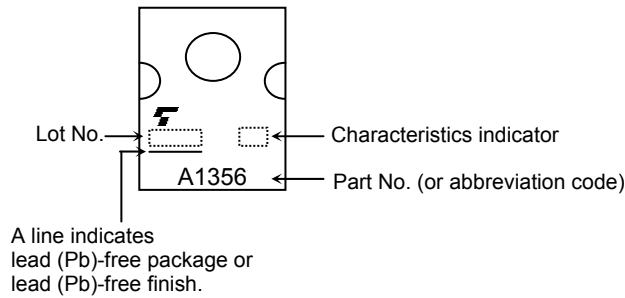
Weight: 0.82 g (typ.)

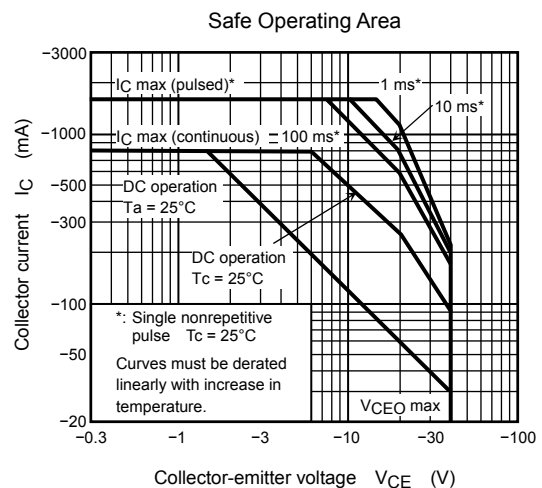
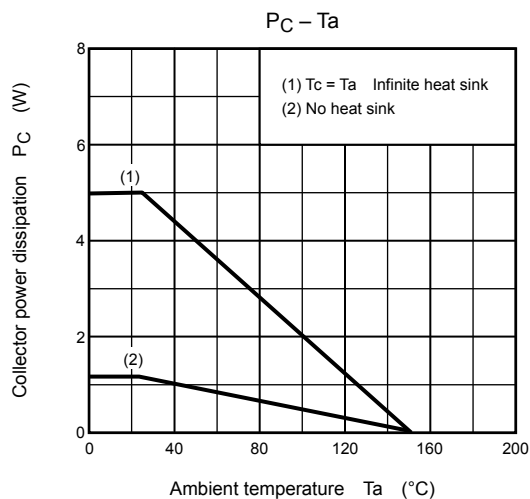
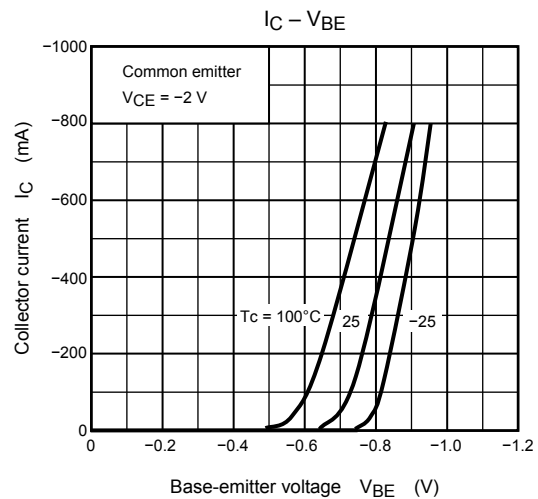
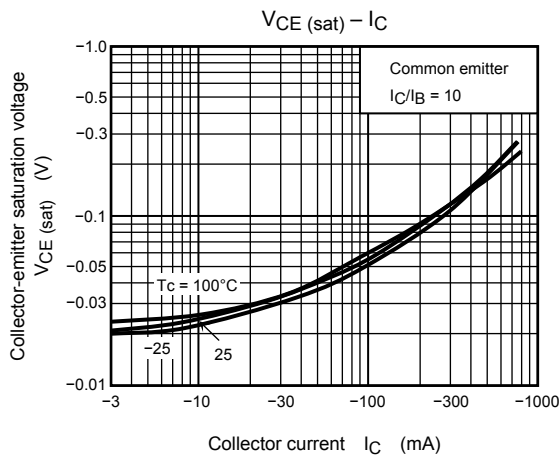
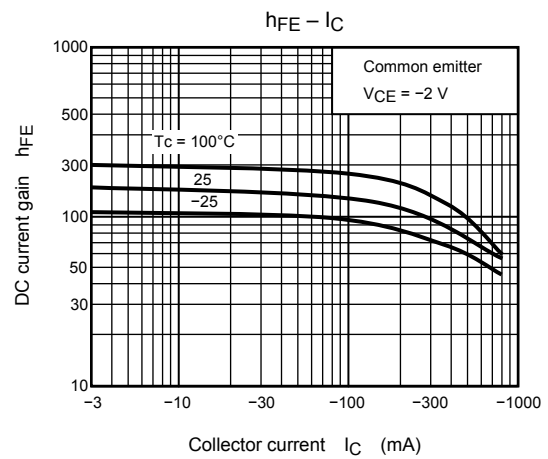
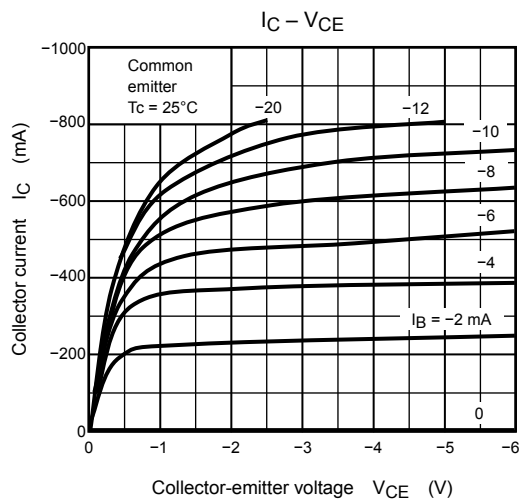
Electrical Characteristics (Tc = 25°C)

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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20070701-EN

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