TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

2SA1357

Strobe Flash Applications Audio Power Amplifier Applications

• $h_{FE(1)} = 100 \text{ to } 320 \text{ (VCE} = -2 \text{ V, IC} = -0.5 \text{ A)}$

• $h_{FE(2)} = 70 \text{ (min) } (V_{CE} = -2 \text{ V}, I_{C} = -4 \text{ A})$

• Low saturation voltage: $V_{CE (sat)} = -1.0 \text{ V (max)}$

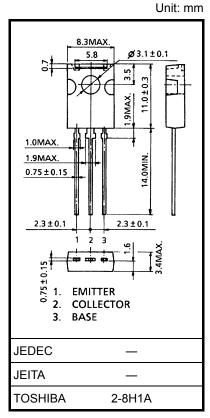
(IC = -4 A, IB = -0.1 A)

• High power dissipation: $PC = 10 \text{ W} \text{ (Tc} = 25^{\circ}\text{C)},$

 $P_{C} = 1.5 \text{ W (Ta} = 25^{\circ}\text{C)}$

Absolute Maximum Ratings (Tc = 25°C)

Characteristics		Symbol	Rating	Unit	
Collector-base voltage		V_{CBO}	-35	V	
Collector-emitter voltage		V _{CEO}	-20	V	
Emitter-base voltage		V _{EBO}	-8	V	
Collector current	DC	IC	-5	А	
	Pulsed (Note 1)	I _{CP}	-8		
Base current		IB	-1	Α	
Collector power dissipation	Ta = 25°C	D.	1.5	W	
	Tc = 25°C	P _C	10		
Junction temperature		Tj	150	°C	
Storage temperature range		T _{stg}	−55 to 150	°C	



Weight: 0.82 g (typ.)

Note 1: Pulse test: Pulse width = 10 ms (max)
Duty cycle = 30% (max)

Note 2: 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).

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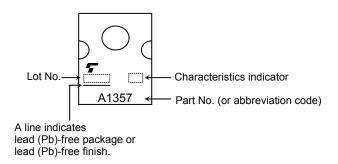


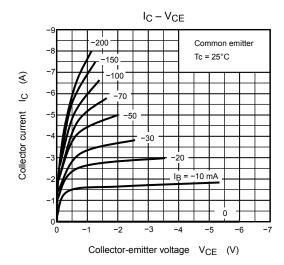
Electrical Characteristics (Tc = 25°C)

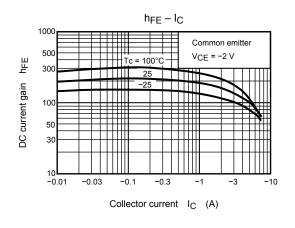
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I _{CBO}	$V_{CB} = -35 \text{ V}, I_{E} = 0$	_	_	-100	μΑ
Emitter cut-off current	I _{EBO}	V _{EB} = -8 V, I _C = 0	_	_	-100	μΑ
Collector-emitter breakdown voltage	V (BR) CEO	I _C = -10 mA, I _B = 0	-20	_	_	V
DC current gain	h _{FE (1)} (Note 3)	V _{CE} = -2 V, I _C = -0.5 A	100	_	320	
	h _{FE (2)}	V _{CE} = -2 V, I _C = -4 A	70	_	_	
Collector-emitter saturation voltage	V _{CE} (sat)	I _C = -4 A, I _B = -0.1 A	_	_	-1.0	V
Base-emitter voltage	V_{BE}	V _{CE} = -2 V, I _C = -4 A	_	_	-1.5	V
Transition frequency	f _T	V _{CE} = -2 V, I _C = -0.5 A	_	170	_	MHz
Collector output capacitance	C _{ob}	V _{CB} = -10 V, I _E = 0, f = 1 MHz	_	62	_	pF

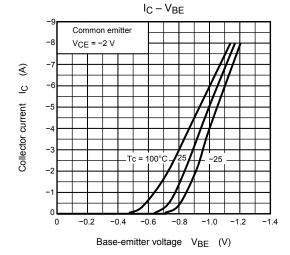
Note 3: $h_{FE(1)}$ classification O: 100 to 200, Y: 160 to 320

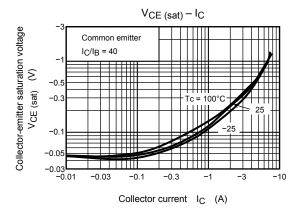
Marking

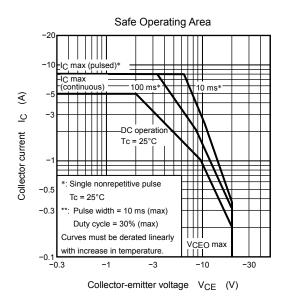












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