

2SA1802

Strobe Flash Applications

Medium Power Amplifier Applications

Unit: mm

- Excellent h_{FE} linearity
 $: h_{FE} (1) = 200 \text{ to } 600 (V_{CE} = -2 \text{ V}, I_C = -0.5 \text{ A})$
 $: h_{FE} (2) = 140 (\text{min}), 200 (\text{typ.}) (V_{CE} = -2 \text{ V}, I_C = -3 \text{ A})$
- Low collector saturation voltage
 $: V_{CE} (\text{sat}) = -0.5 \text{ V (max)} (I_C = -3 \text{ A}, I_B = -60 \text{ mA})$
- Complementary to 2SC4681

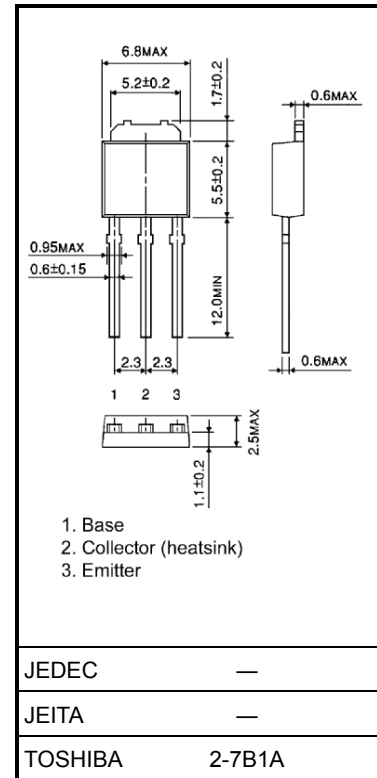
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-30	V
Collector-emitter voltage	V_{CES}	-30	V
	V_{CEO}	-10	
Emitter-base voltage	V_{EBO}	-6	V
Collector current	DC	I_C	A
	Pulsed (Note 1)	I_{CP}	
Base current	I_B	-0.5	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	P_C	W
	$T_c = 25^\circ\text{C}$	10	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

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).

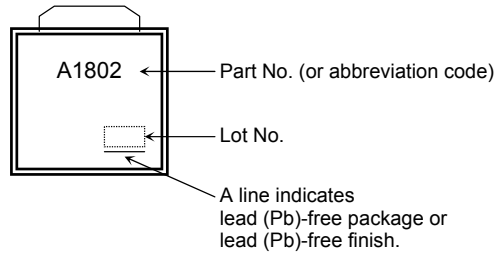


Weight: 0.36 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = -20\text{ V}, I_E = 0$	—	—	-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -6\text{ V}, I_C = 0$	—	—	-100	nA
Collector-emitter breakdown voltage	$V_{(BR) CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-10	—	—	V
DC current gain	$h_{FE} (1)$	$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	200	—	600	
	$h_{FE} (2)$	$V_{CE} = -2\text{ V}, I_C = -3\text{ A}$	140	200	—	
Collector-emitter saturation voltage	$V_{CE (sat)}$	$I_C = -3\text{ A}, I_B = -60\text{ mA}$	—	-0.25	-0.50	V
Base-emitter voltage	V_{BE}	$V_{CE} = -2\text{ V}, I_C = -3\text{ A}$	—	-0.86	-1.2	V
Transition frequency	f_T	$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	—	180	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	50	—	pF

Marking



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20070701-EN

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