TOSHIBA Transistor Silicon NPN Epitaxial Type

2SC4681

Strobe Flash Applications

Medium Power Amplifier Applications

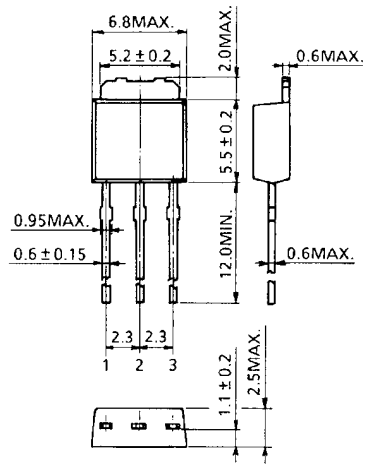
- Excellent h_{FE} linearity
  : $h_{FE\ (1)}$ = 200 to 600 (V_{CE} = 2 V, I_C = 0.5 A)
  : $h_{FE\ (2)}$ = 140 (min), 200 (typ.) (V_{CE} = 2 V, I_C = 3 A)
- Low collector saturation voltage
  : $V_{CE\ (sat)}$ = 0.5 V (max) (I_C = 3 A, I_B = 60 mA)
- Complementary to 2SA1802

Maximum Ratings (Ta = 25°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	3	A
	Pulse (Note)	I_{CP}	6	
Base current		I_B	0.5	A
Collector power dissipation	Ta = 25°C	P_C	1.0	W
	Tc = 25°C		10	
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	−55 to 150	°C

Note: Pulse test: Pulse width = 10 ms (max), duty cycle = 30% (max)

Unit: mm



1. BASE
2. COLLECTOR (HEATSINK)
3. EMITTER

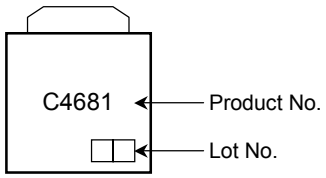
JEDEC	—
JEITA	—
TOSHIBA	2-7B1A

Weight: 0.36 g (typ.)

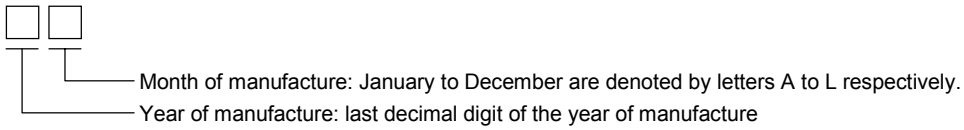
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 30 V, I_E = 0	—	—	100	nA
Emitter cut-off current	I_{EBO}	V_{EB} = 6 V, I_C = 0	—	—	100	nA
Collector-emitter breakdown voltage	V_{CEO}	I_C = 10 mA, I_B = 0	10	—	—	V
DC current gain	$h_{FE\ (1)}$	V_{CE} = 20 V, I_C = 0.5 A	200	—	600	
	$h_{FE\ (2)}$	V_{CE} = 2 V, I_C = 3 A	140	200	—	
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = 3 A, I_B = 60 mA	—	0.33	0.5	V
Base-emitter voltage	V_{BE}	V_{CE} = 2 V, I_C = 3 A	—	0.92	1.2	V
Transition frequency	f_T	V_{CE} = 2 V, I_C = 0.5 A	—	150	—	MHz
Collector output capacitance	C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz	—	27	—	pF

Marking



Explanation of Lot No.



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