

TOSHIBA Transistor Silicon NPN Epitaxial Type

2SC4681

Strobe Flash Applications
Medium Power Amplifier Applications

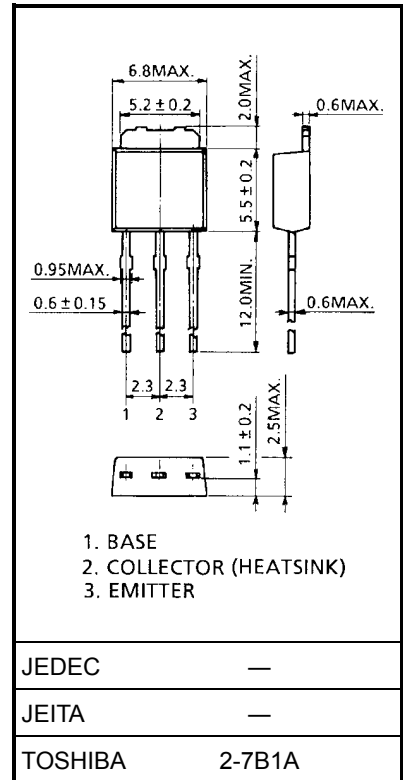
- Excellent h_{FE} linearity
: $h_{FE} (1) = 200$ to 600 ($V_{CE} = 2$ V, $I_C = 0.5$ A)
: $h_{FE} (2) = 140$ (min), 200 (typ.) ($V_{CE} = 2$ V, $I_C = 3$ A)
- Low collector saturation voltage
: $V_{CE(sat)} = 0.5$ V (max) ($I_C = 3$ A, $I_B = 60$ mA)
- Complementary to 2SA1802

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

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	3	A
	Pulse (Note)	I_{CP}	6	
Base current		I_B	0.5	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	P_C	1.0	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: Pulse test: Pulse width = 10 ms (max), duty cycle = 30% (max)

Unit: mm

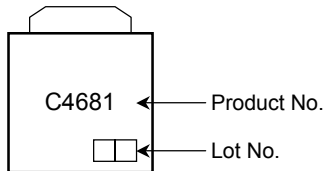


Weight: 0.36 g (typ.)

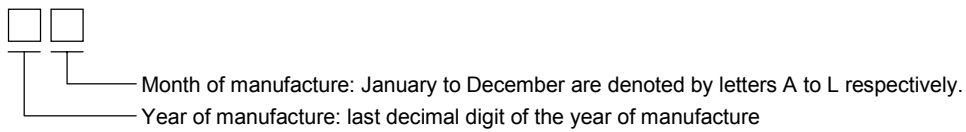
Electrical Characteristics (Ta = 25°C)

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

Marking



Explanation of Lot No.



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