

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

2SC4684

STROBE FLASH APPLICATIONS

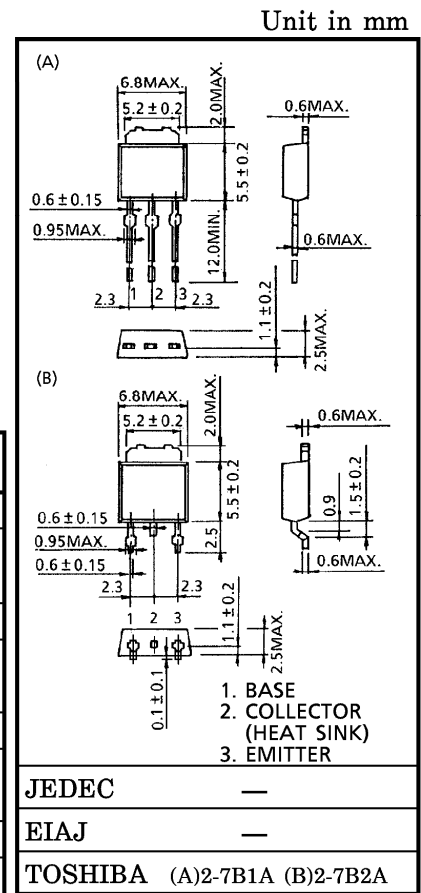
MEDIUM POWER AMPLIFIER APPLICATIONS

- High DC Current Gain
 : $h_{FE}(1) = 800 \sim 3200$ ($V_{CE} = 2V, I_C = 0.5A$)
 : $h_{FE}(2) = 250$ (Min.) ($V_{CE} = 2V, I_C = 4A$)
- Low Collector Saturation Voltage
 : $V_{CE(sat)} = 0.5V$ (Max.) ($I_C = 4A, I_B = 40mA$)
- High Power Dissipation
 : $P_C = 10W$ ($T_c = 25^\circ C$), $P_C = 1.0W$ ($T_a = 25^\circ C$)

MAXIMUM RATINGS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	RATING	UNIT	
Collector-Base Voltage	V_{CBO}	50	V	
Collector-Emitter Voltage	V_{CES}	40	V	
	V_{CEO}	20		
Emitter-Base Voltage	V_{EBO}	8	V	
Collector Current	DC	I_C	5	A
	Pulse (Note 1)	I_{CP}	8	
Base Current	I_B	0.5	A	
Collector Power Dissipation	P_C	$T_a = 25^\circ C$	1.0	W
		$T_c = 25^\circ C$	10	
Junction Temperature	T_j	150	$^\circ C$	
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$	

Note 1 : Pulse Test : Pulse Width = 10 ms (Max.)
 Duty Cycle = 30% (Max.)



Weight : 0.36 g

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 50V, I_E = 0$	—	—	100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 8V, I_C = 0$	—	—	100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	20	—	—	V
DC Current Gain	$h_{FE}(1)$	$V_{CE} = 2V, I_C = 0.5A$	800	—	3200	
	$h_{FE}(2)$	$V_{CE} = 2V, I_C = 4A$	250	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 4A, I_B = 40mA$	—	—	0.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = 2V, I_C = 4A$	—	—	1.2	V
Transition Frequency	f_T	$V_{CE} = 2V, I_C = 0.5A$	—	150	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	45	—	pF

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