

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC4682

STROBE FLASH APPLICATIONS

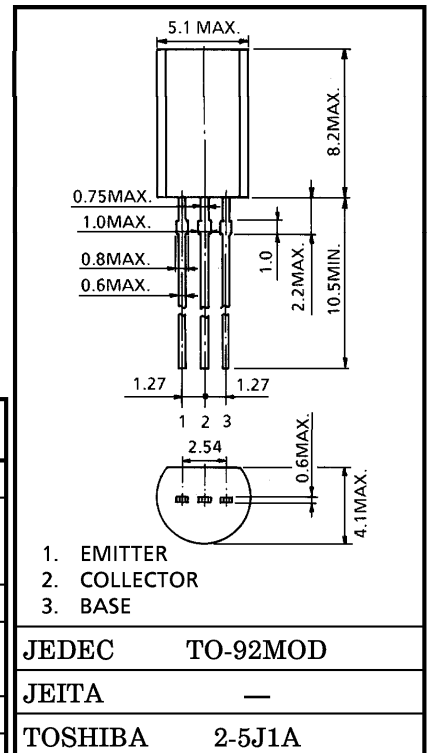
MEDIUM POWER AMPLIFIER APPLICATIONS

- Excellent h_{FE} Linearity
 : $h_{FE} (1) = 800 \sim 3200$ ($V_{CE} = 1 \text{ V}$, $I_C = 0.5 \text{ A}$)
 : $h_{FE} (2) = 500$ (Typ.) ($V_{CE} = 1 \text{ V}$, $I_C = 3 \text{ A}$)
- Low Collector Saturation Voltage
 : $V_{CE(sat)} = 0.5 \text{ V}$ (Max.) ($I_C = 3 \text{ A}$, $I_B = 30 \text{ mA}$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CES}	30	V
	V_{CEO}	15	
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	DC I_C	3	A
	Pulse I_{CP}	6	
Base Current	I_B	0.8	A
Collector Power Dissipation	P_C	900	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

Unit in mm

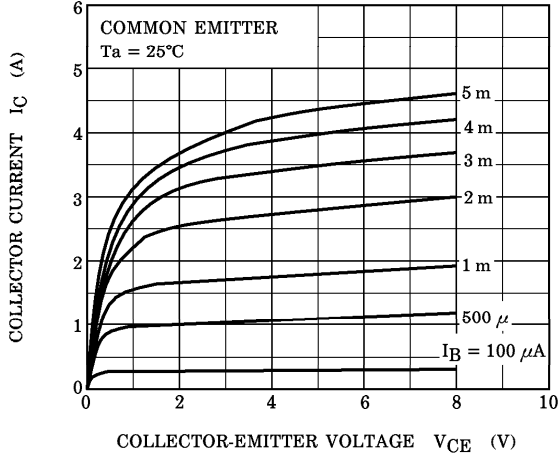


Weight : 0.36 g (Typ.)

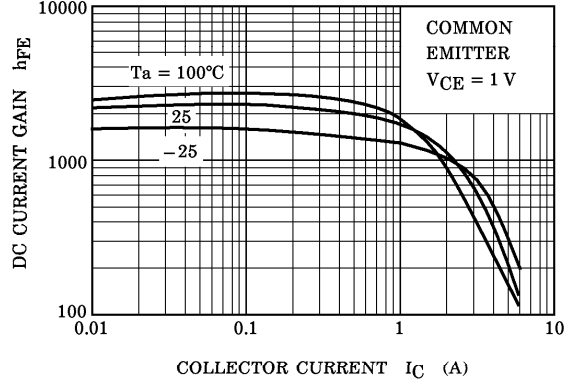
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 30 \text{ V}$, $I_E = 0$	—	—	1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 6 \text{ V}$, $I_C = 0$	—	—	10	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10 \text{ mA}$, $I_B = 0$	15	—	—	V
DC Current Gain	$h_{FE} (1)$	$V_{CE} = 1 \text{ V}$, $I_C = 0.5 \text{ A}$	800	—	3200	
	$h_{FE} (2)$	$V_{CE} = 1 \text{ V}$, $I_C = 3 \text{ A}$	300	500	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3 \text{ A}$, $I_B = 30 \text{ mA}$	—	0.25	0.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = 1 \text{ V}$, $I_C = 3 \text{ A}$	—	0.85	1.2	V
Transition Frequency	f_T	$V_{CE} = 1 \text{ V}$, $I_C = 0.5 \text{ A}$	—	150	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$	—	30	—	pF

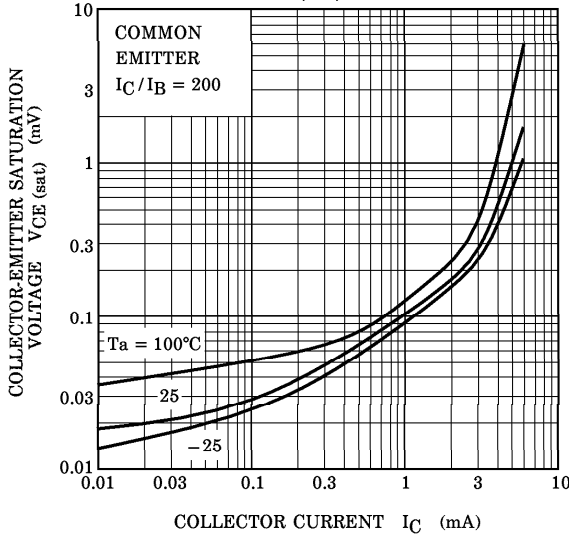
$I_C - V_{CE}$



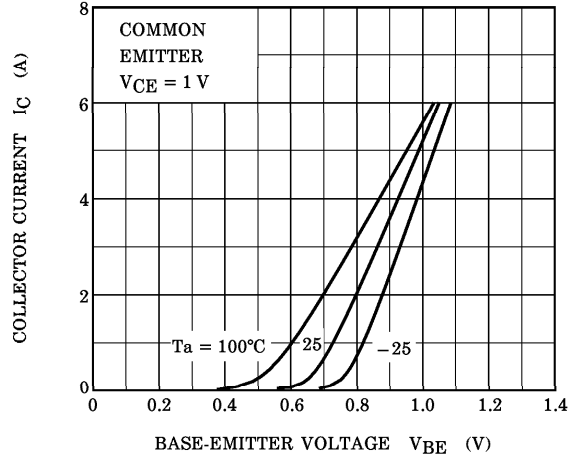
$h_{FE} - I_C$



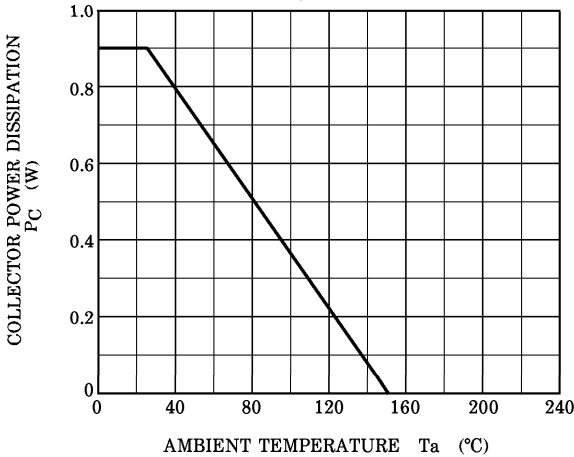
$V_{CE(sat)} - I_C$



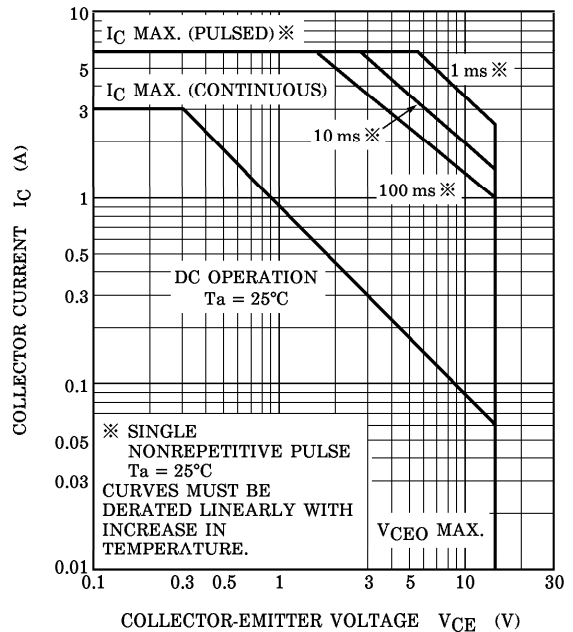
$I_C - V_{BE}$



$P_C - T_a$



SAFE OPERATING AREA



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