TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

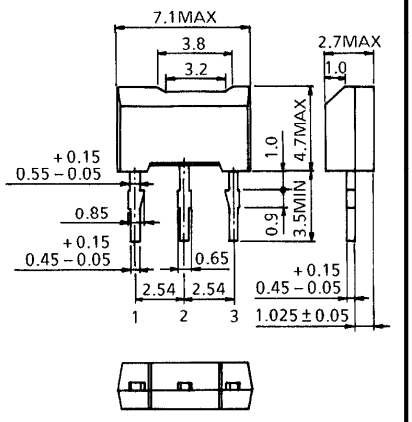
2SC4683

STROBE FLASH APPLICATIONS

MEDIUM POWER AMPLIFIER APPLICATIONS

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

Unit in mm



1. BASE
2. COLLECTOR
3. EMITTER

JEDEC	—
JEITA	SC-65
TOSHIBA	2-7D101A

Weight : 0.2g (Typ.)

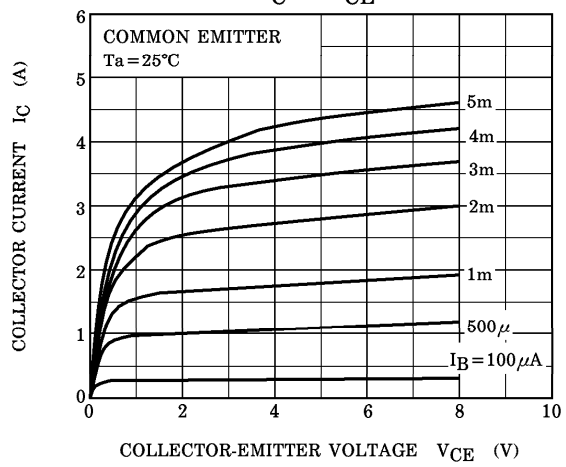
MAXIMUM RATINGS (Ta = 25°C)

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
	Pulsed	I_{CP}	6	
Base Current		I_B	0.8	A
Collector Power Dissipation		P_C	1000	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

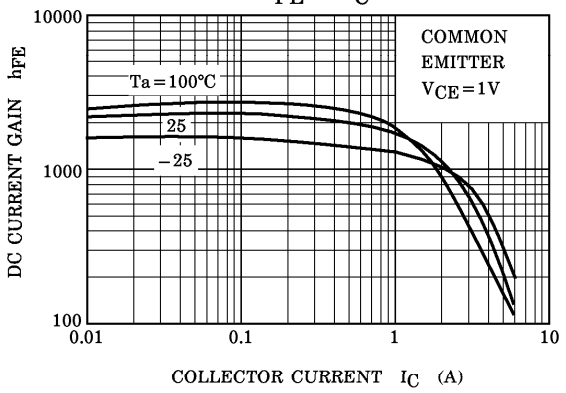
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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

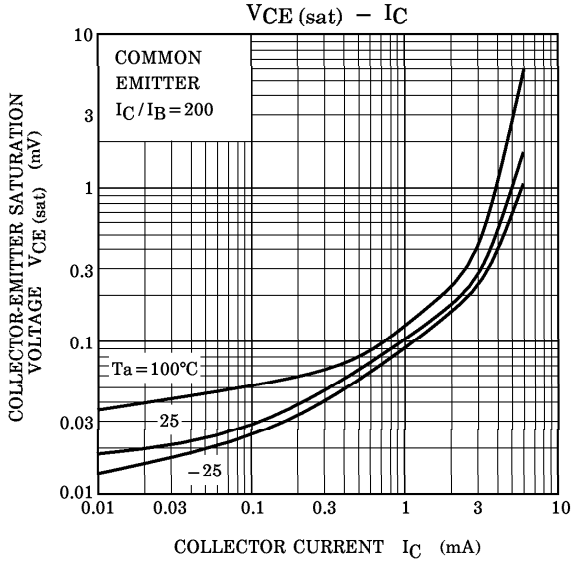
I_C – V_{CE}



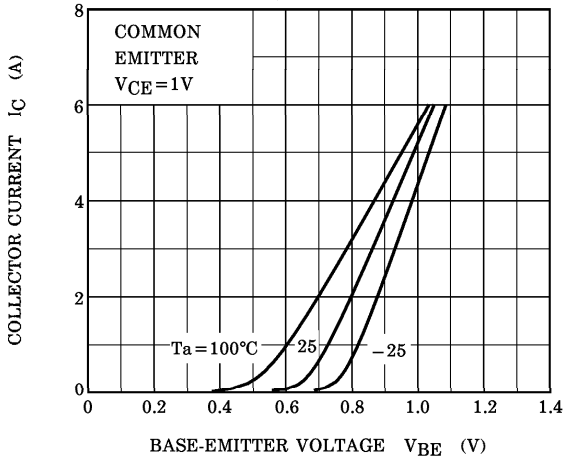
h_{FE} – I_C



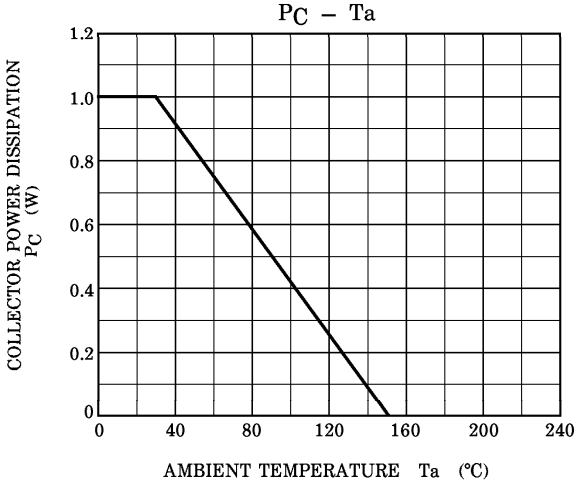
$V_{CE\,(sat)}$ – I_C



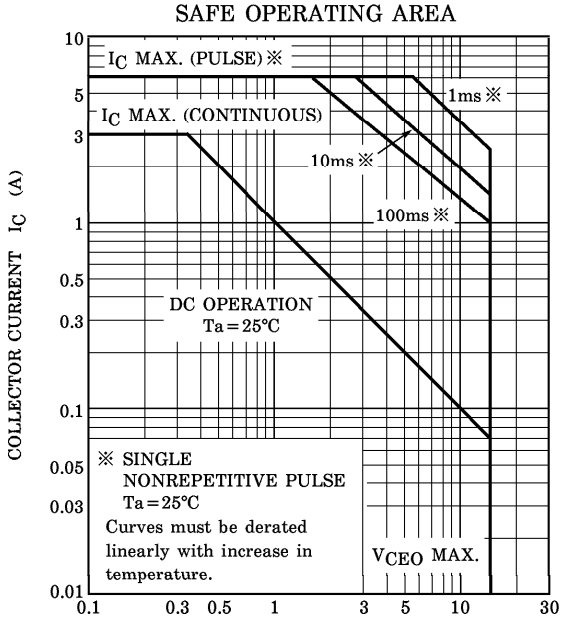
I_C – V_{BE}



P_C – Ta



SAFE OPERATING AREA



I_C – V_{BE}

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