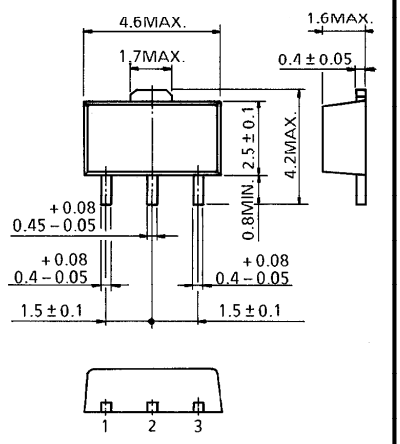
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC2982

STOROBO FLASH APPLICATIONS
MEDIUM POWER AMPLIFIER APPLICATIONS

- High DC Current Gain and Excellent h_{FE} Linearity
  : h_{FE} (1) = 140~600 (V_{CE} = 1V, I_C = 0.5A)
  : h_{FE} (2) = 70 (Min.), 140 (Typ.) (V_{CE} = 1V, I_C = 2A)
- Low Saturation Voltage
  : $V_{CE\ (sat)}$ = 0.5V (Max.) (I_C = 2A, I_B = 50mA)
- Small Flat Package
- P_C = 1~2W (Mounted on Ceramic Substrate)

Unit in mm

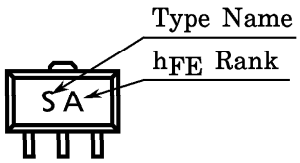


1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

JEDEC	—
EIAJ	SC-62
TOSHIBA	2-5K1A

Weight : 0.05g

MARKING



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}	10	V
Emitter-Base Voltage		V_{EBO}	6	V
Collector Current	DC	I_C	2	A
	Pulse (Note 1)	I_{CP}	4	
Bace Current	DC	I_B	0.4	A
	Pulse (Note 1)	I_{BP}	0.8	
Collector Power Dissipation		P_C	500	mW
Collector Power Dissipation		P_C※	1000	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

Note 1 : Pulse Width ≦ 10ms, Duty Cycle ≦ 30%
P_C※ : 2SC2982 Mounted on Ceramic Substrate (250mm² × 0.8t)

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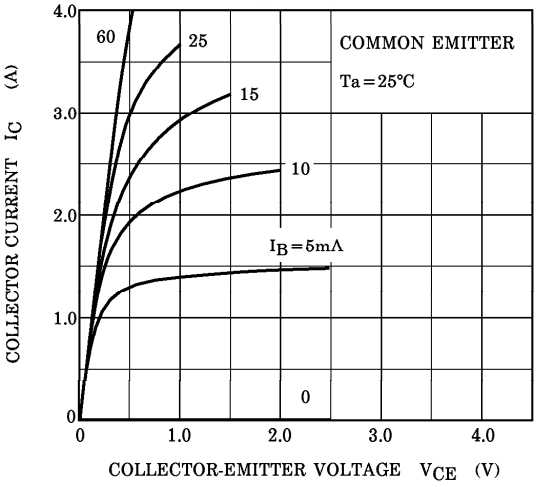
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

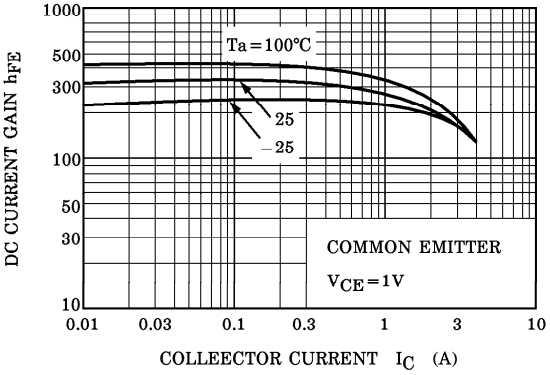
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB} = 30V, I_E = 0	—	—	100	nA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 6V, I_C = 0	—	—	100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0	10	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 1mA, I_C = 0	6	—	—	V
DC Current Gain	h_{FE} (1) (Note 2)	V_{CE} = 1V, I_C = 0.5A	140	—	600	
	h_{FE} (2)	V_{CE} = 1V, I_C = 2A	70	140	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 2A, I_B = 50mA	—	0.2	0.5	V
Base-Emitter Voltage	V_{BE}	V_{CE} = 1V, I_C = 2A	—	0.86	1.5	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	—	27	—	pF

Note 2 : h_{FE} (1) Classification A : 140~240, B : 200~330, C : 300~450, D : 420~600

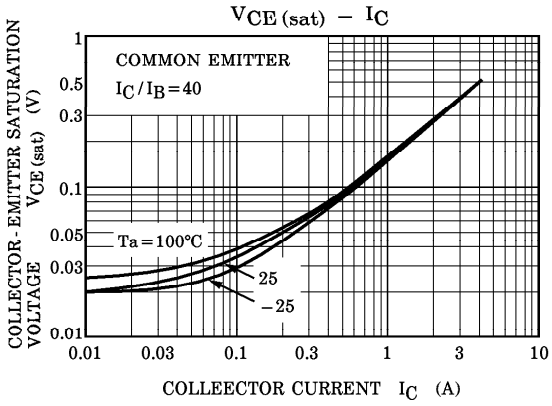
I_C – V_{CE}



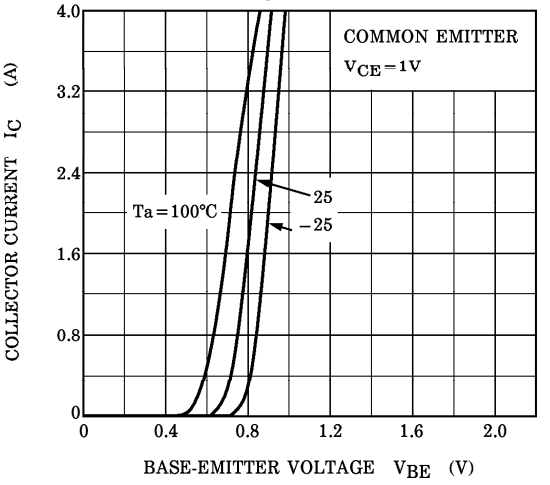
h_{FE} – I_C



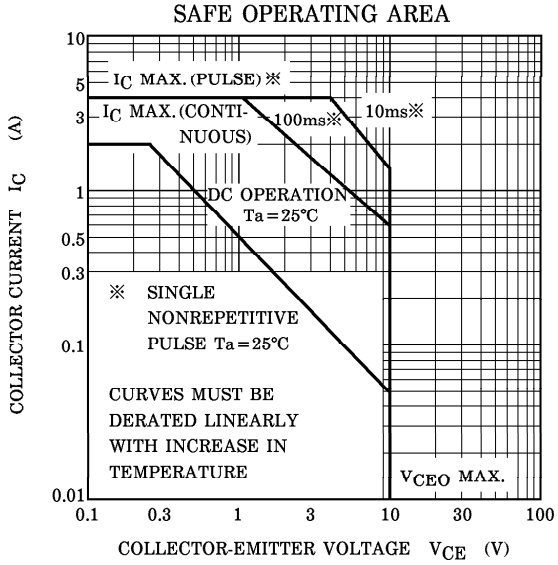
$V_{CE\,(sat)}$ – I_C



I_C – V_{BE}



SAFE OPERATING AREA



P_C – Ta