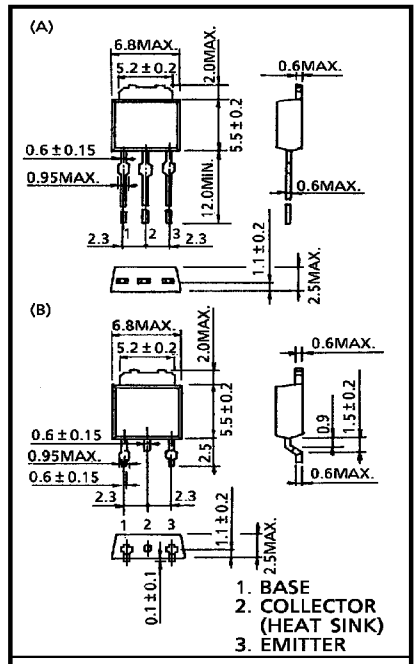
TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1242

STROBE FLASH APPLICATIONS

MEDIUM POWER AMPLIFIER APPLICATIONS

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	(A) 2-7B1A (B) 2-7B2A

Weight : 0.36 g

- h_{FE} = 100~320 (V_{CE} = −2 V, I_C = −0.5 A)
- h_{FE} = 70 (Min.) (V_{CE} = −2 V, I_C = −4 A)
- Low Collector Saturation Voltage
  : $V_{CE\,(sat)}$ = −1.0 V (Max.) (I_C = −4 A, I_B = −0.1 A)
- High Power Dissipation
  : P_C = 10 W (Tc = 25°C), P_C = 1.0 W (Ta = 25°C)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	−35	V
Collector-Emitter Voltage		V_{CEO}	−20	V
Emitter-Base Voltage		V_{EBO}	−8	V
Collector Current	DC	I_C	−5	A
	Pulsed (Note 1)	I_{CP}	−8	A
Base Current		I_B	−0.5	A
Collector Power Dissipation	Ta = 25°C	P_C	1.0	W
	Tc = 25°C		10	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

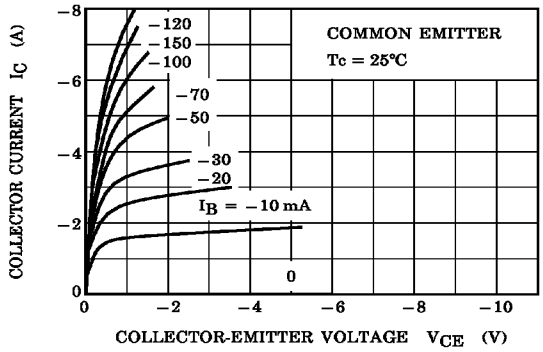
Note 1 : Pulse Test : Pulse width = 10 ms (Max.), Duty cycle = 30% (Max.)

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

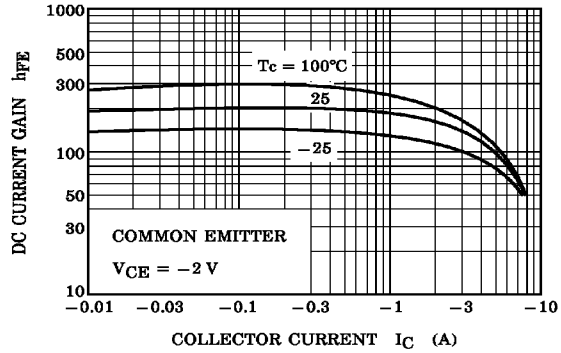
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = -35$ V, $I_E = 0$	—	—	−100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -8$ V, $I_C = 0$	—	—	−100	nA
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C = -10$ mA, $I_B = 0$	−20	—	—	V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E = -1$ mA, $I_C = 0$	−8	—	—	V
DC Current Gain	h_{FE} (1) (Note 2)	$V_{CE} = -2$ V, $I_C = -0.5$ A	100	—	320	
	h_{FE} (2)	$V_{CE} = -2$ V, $I_C = -4$ A	70	—	—	
Collector-Emitter Saturation Voltage	$V_{CE\ (sat)}$	$I_C = -4$ A, $I_B = -0.1$ A	—	—	−1.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = -2$ V, $I_C = -4$ A	—	—	−1.5	V
Transition Frequency	f_T	$V_{CE} = -2$ V, $I_C = -0.5$ A	—	170	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz	—	62	—	pF

Note 2 : $h_{FE\ (1)}$ Classification O : 100~200, Y : 160~320

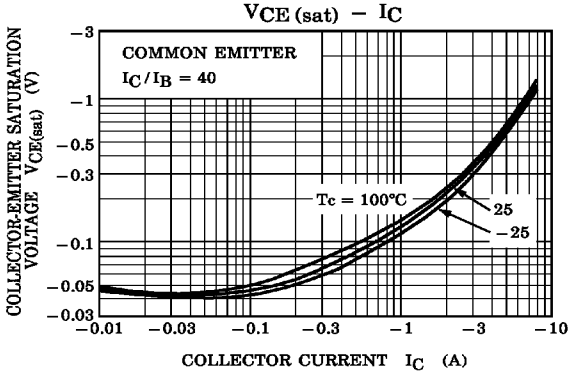
I_C – V_{CE}



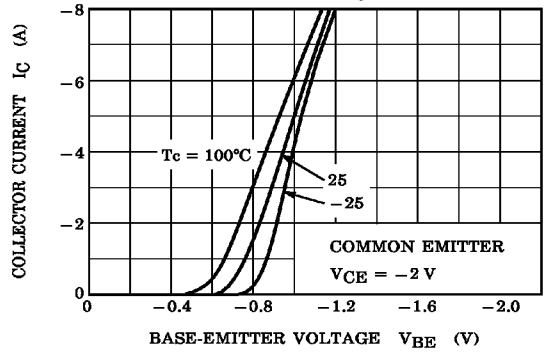
h_{FE} – I_C



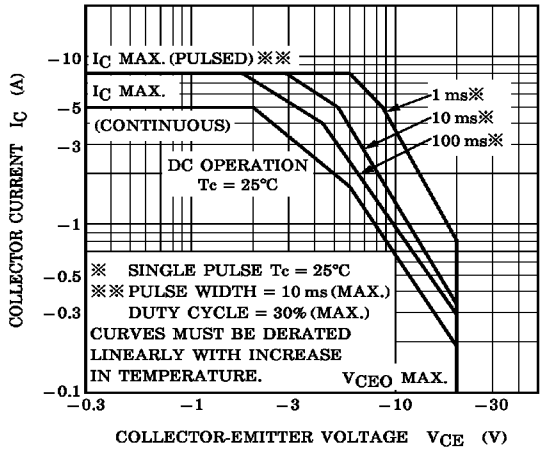
$V_{CE\,(sat)}$ – I_C



V_{BE} – I_C



SAFE OPERATING AREA



P_C – Ta