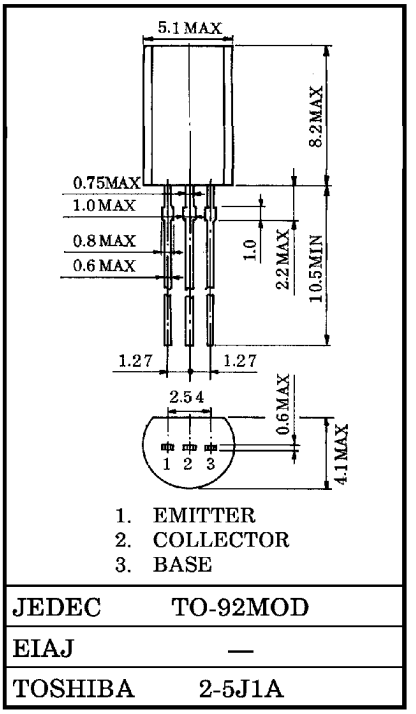
TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1160

STROBE 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)
  : $h_{FE(2)}$ = 60 (Min.), 120 (Typ.) (V_{CE} = −1V, I_C = −4A)
- Low Saturation Voltage
  : $V_{CE(sat)}$ = −0.5V (Max.) (I_C = −2A, I_B = −50mA)

Unit in mm



1. EMITTER
2. COLLECTOR
3. BASE

JEDEC	TO-92MOD
EIAJ	—
TOSHIBA	2-5J1A

Weight : 0.36g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	−20	V
Collector-Emitter Voltage		V_{CEO}	−10	V
Emitter-Base Voltage		V_{EBO}	−6	V
Collector Current	DC	I_C	−2	A
	Pulsed (Note 1)	I_{CP}	−4	
Base Current		I_B	−2	A
Collector Power Dissipation		P_C	900	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

Note 1 : Pulse Width = 10ms (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} = −20V, 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 = −4A	60	120	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = −2A, I_B = −50mA	—	−0.20	−0.50	V
Base-Emitter Voltage	V_{BE}	V_{CE} = −1V, I_C = −2A	—	−0.83	−1.5	V
Transition Frequency	f_T	V_{CE} = −1V, I_C = −0.5A	—	140	—	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = −10V, I_E = 0, f = 1MHz	—	50	—	pF

Note 2 : $h_{FE(1)}$ Classification A : 140~280, B : 200~400, C : 300~600

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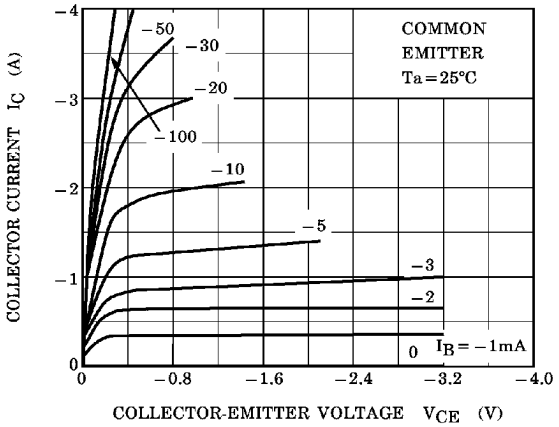
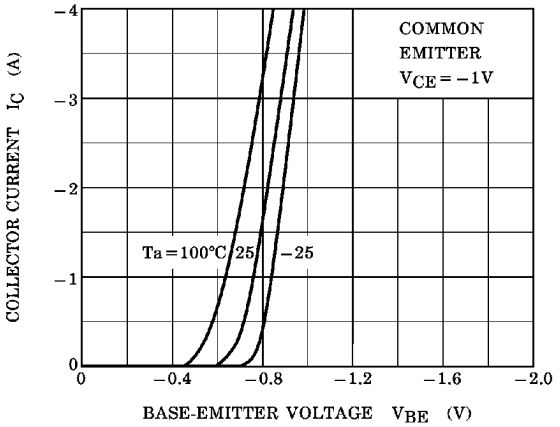
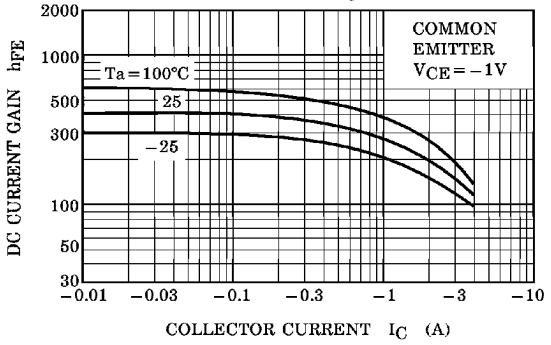
I_C – V_{CE}



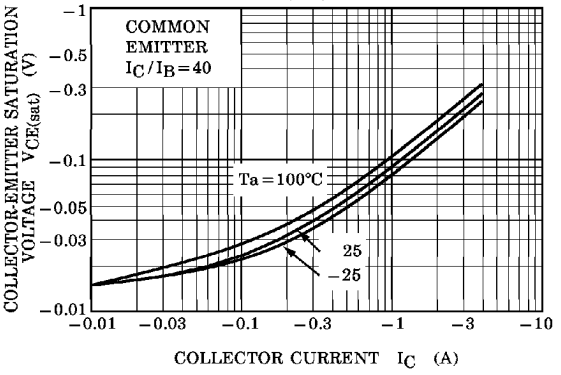
I_C – V_{BE}



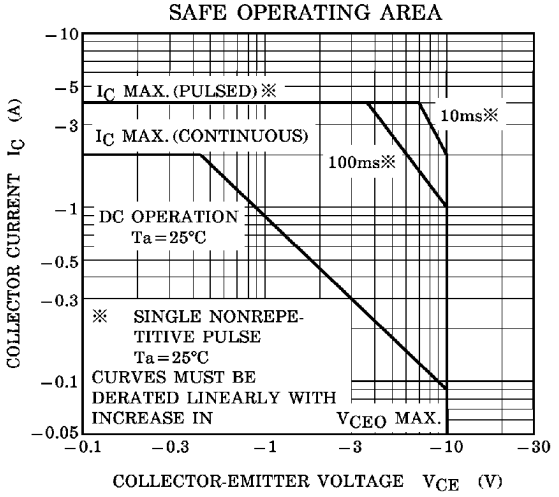
h_{FE} – I_C



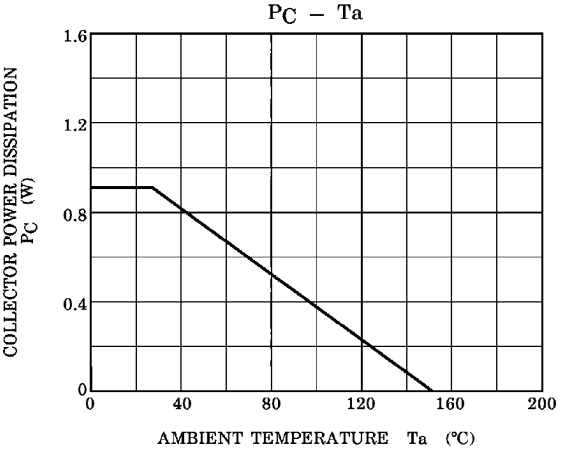
$V_{CE(sat)}$ – I_C



SAFE OPERATING AREA



P_C – Ta



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