TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

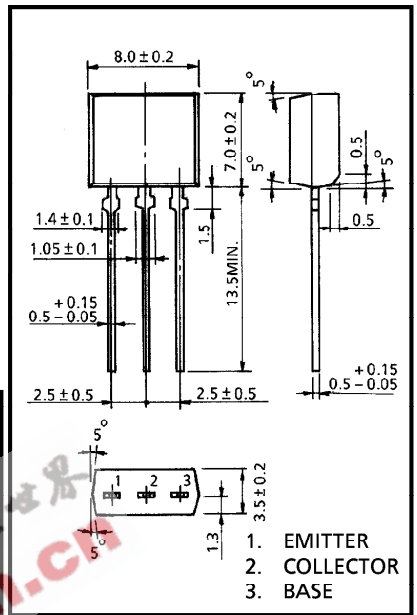
2SA1893

STOROBE FLASH APPLICATIONS

MEDIUM POWER AMPLIFIER APPLICATIONS

- $h_{FE\,(1)}$ = 100~320
- $h_{FE\,(2)}$ = 70 (Min.)
- Low Collector Saturation Voltage
  : $V_{CE\,(sat)}$ = −1.0V (Max.)
- High Power Dissipation : P_C = 1.3W

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-8M1A

Weight : 0.55g (Typ.)

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
	Pulse (Note 1)	I_{CP}	−8	A
Base Current		I_B	−0.5	A
Collector Power Dissipation		P_C	1.3	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

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

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

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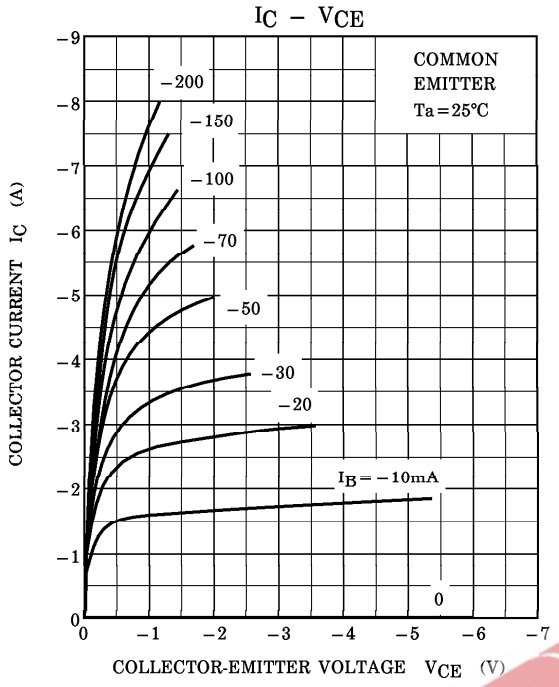
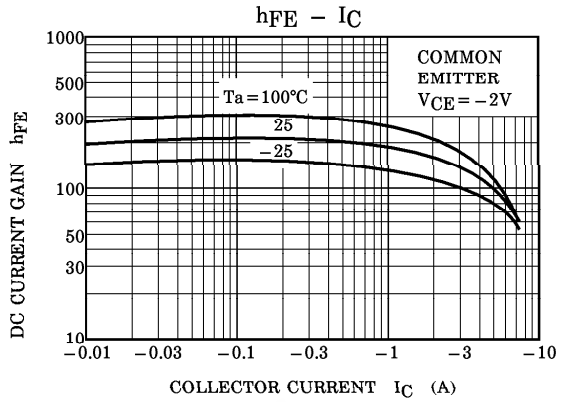
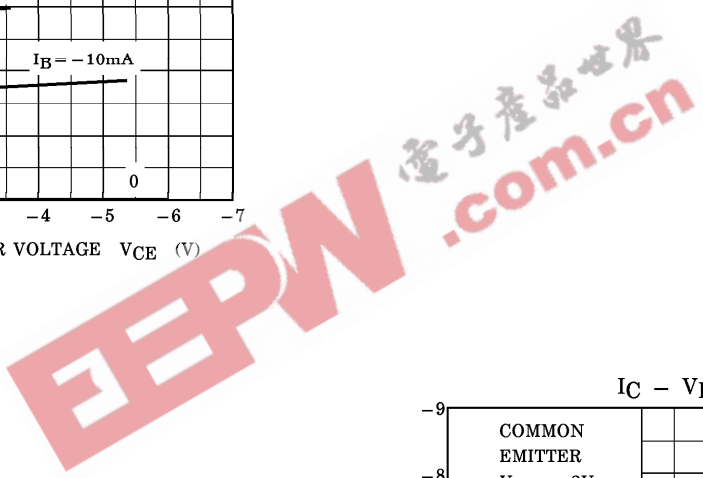

IC – VCE
COMMON
EMITTER
Ta = 25°C
–200
–150
–100
–70
–50
–30
–20
IB = –10mA
0
COLLECTOR CURRENT IC (A)
COLLECTOR-EMITTER VOLTAGE VCE (V)


hFE – IC
COMMON
EMITTER
VCE = –2V
Ta = 100°C
25
–25
DC CURRENT GAIN hFE
COLLECTOR CURRENT IC (A)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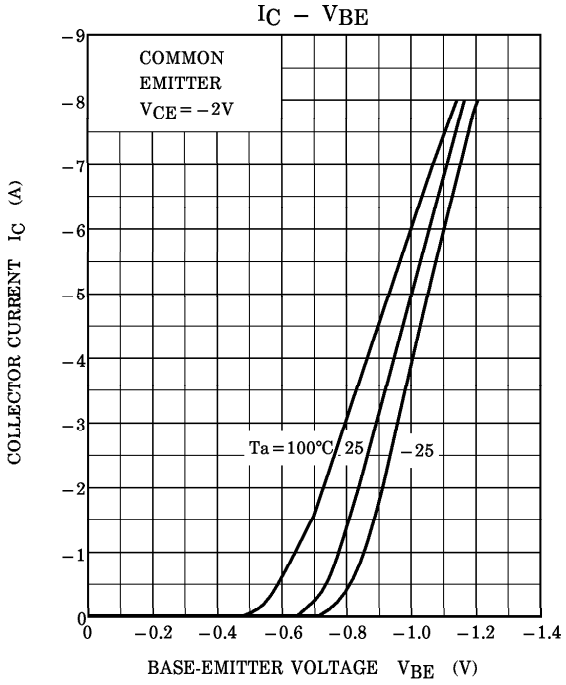
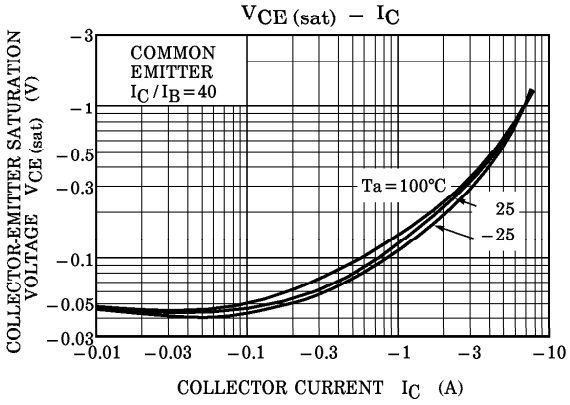
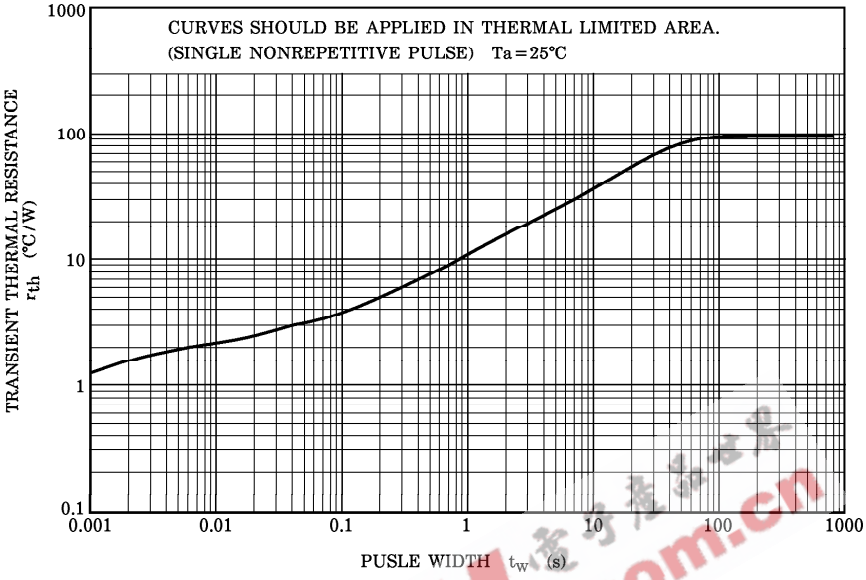
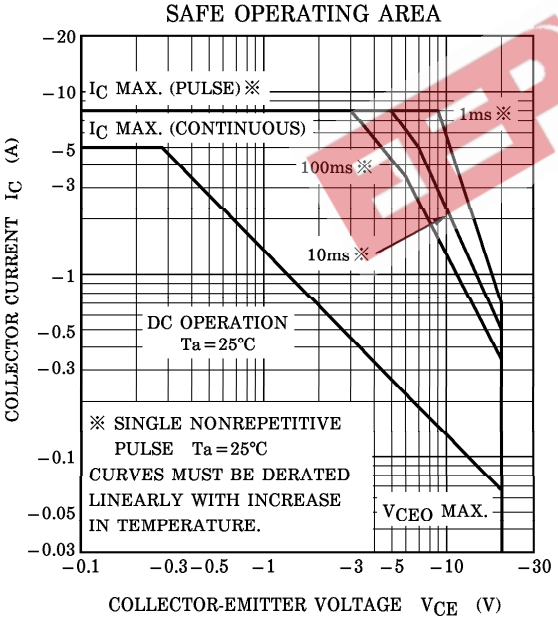

IC – VBE
COMMON
EMITTER
VCE = –2V
Ta = 100°C
25
–25
COLLECTOR CURRENT IC (A)
BASE-EMITTER VOLTAGE VBE (V)


VCE (sat) – IC
COMMON
EMITTER
IC / IB = 40
Ta = 100°C
25
–25
COLLECTOR-EMITTER SATURATION VOLTAGE VCE (sat) (V)
COLLECTOR CURRENT IC (A)

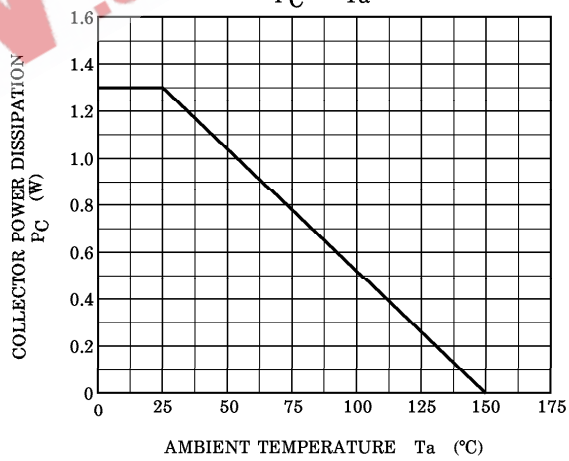
r_{th} – t_w



SAFE OPERATING AREA



P_C – Ta



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