TOSHIBA TRANSISTOR SILICON PNP TRIPLE DIFFUSED TYPE (PCT PROCESS)

2SA1384

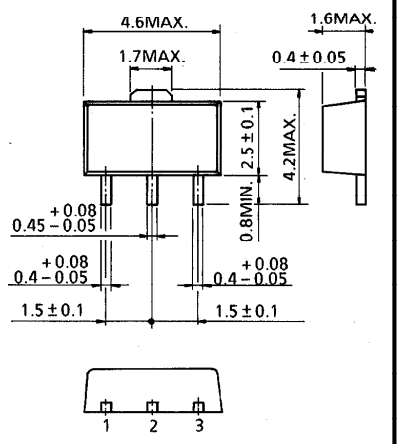
HIGH VOLTAGE CONTROL APPLICATIONS

PLASMA DISPLAY, NIXIE TUBE DRIVER APPLICATIONS

CATHODE RAY TUBE BRIGHTNESS CONTROL APPLICATIONS

- High Voltage : $V_{CBO} = -300V$, $V_{CEO} = -300V$
- Low Saturation Voltage : $V_{CE\,(sat)} = -0.5V$ (Max.)
- Small Collector Output Capacitance : $C_{ob} = 6pF$ (Typ.)
- Complementary to 2SC3515
- Small Flat Package
- $P_C = 1 \sim 2W$ (Mounted Ceramic Substrate)

Unit in mm



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

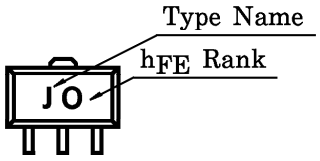
PW-MINI	
JEDEC	—
EIAJ	—
TOSHIBA	2-5K1A

Weight : 0.05g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	−300	V
Collector-Emitter Voltage	V_{CEO}	−300	V
Emitter-Base Voltage	V_{EBO}	−8	V
Collector Current	I_C	−100	mA
Base Current	I_B	−20	mA
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

Marking



P_C* : 2SA1384 mounted on ceramic substrate ($250mm^2 \times 0.8mm^t$)

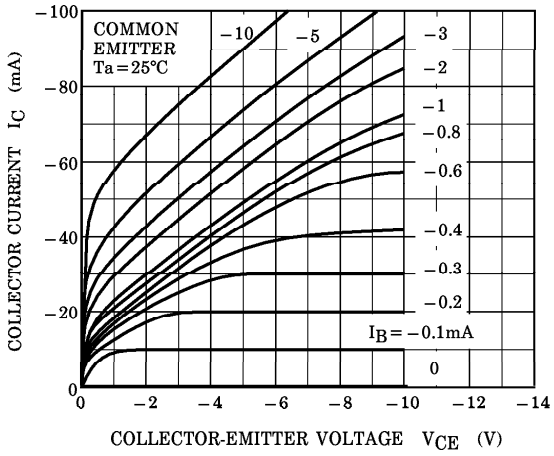
961001EAA2

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

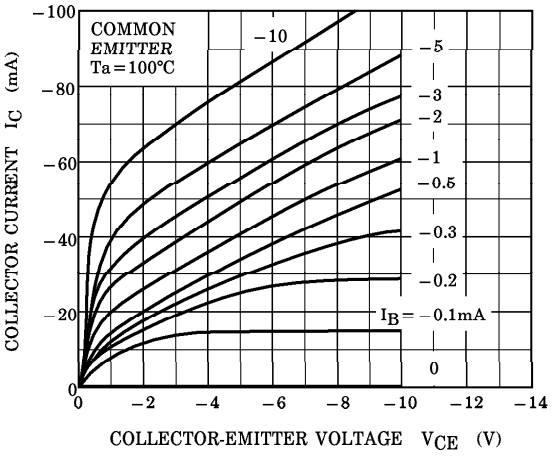
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = -300V$, $I_E = 0$	—	—	−0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -8V$, $I_C = 0$	—	—	−0.1	μA
Collector-Base Breakdown Voltage	$V_{(BR)\,CBO}$	$I_C = -0.1mA$, $I_E = 0$	−300	—	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR)\,CEO}$	$I_C = -1mA$, $I_B = 0$	−300	—	—	V
DC Current Gain	$h_{FE\,(1)}$ (Note)	$V_{CE} = -10V$, $I_C = -20mA$	30	—	150	
	$h_{FE\,(2)}$	$V_{CE} = -10V$, $I_C = -1mA$	20	—	—	
Collector-Emitter Saturation Voltage	$V_{CE\,(sat)}$	$I_C = -20mA$, $I_B = -2mA$	—	—	−0.5	V
Base-Emitter Saturation Voltage	$V_{BE\,(sat)}$	$I_C = -20mA$, $I_B = -2mA$	—	—	−1.0	V
Transition Frequency	f_T	$V_{CE} = -10V$, $I_C = -20mA$	50	70	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -20V$, $I_E = 0$, f = 1MHz	—	6	8	pF

Note : $h_{FE\,(1)}$ Classification R : 30~90 O : 50~150

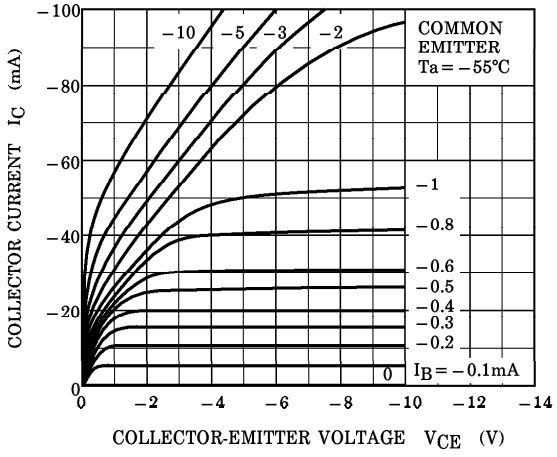
I_C – V_{CE} (LOW VOLTAGE REGION)



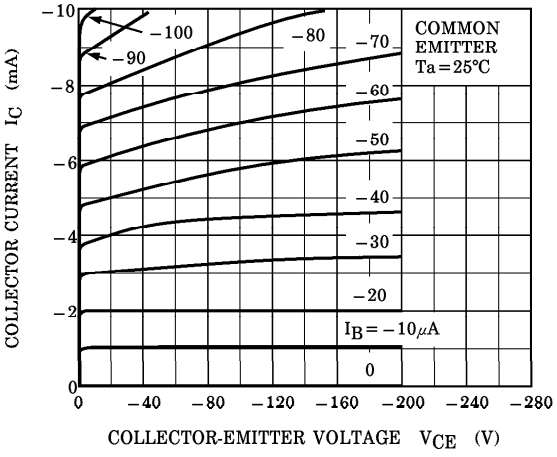
I_C – V_{CE} (LOW VOLTAGE REGION)



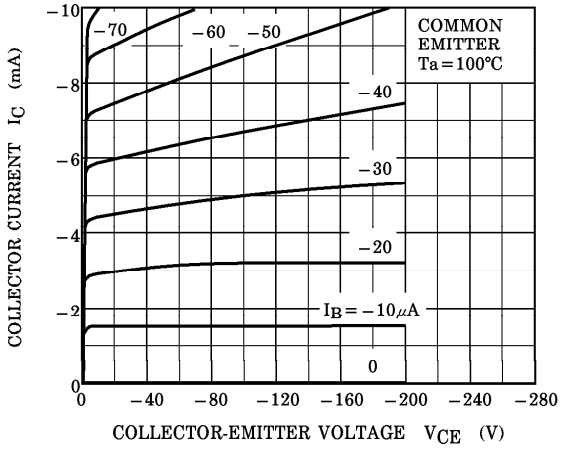
I_C – V_{CE} (LOW VOLTAGE REGION)



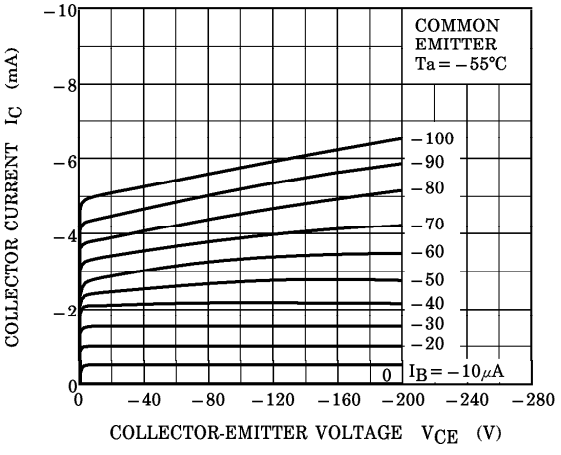
I_C – V_{CE} (LOW CURRENT REGION)



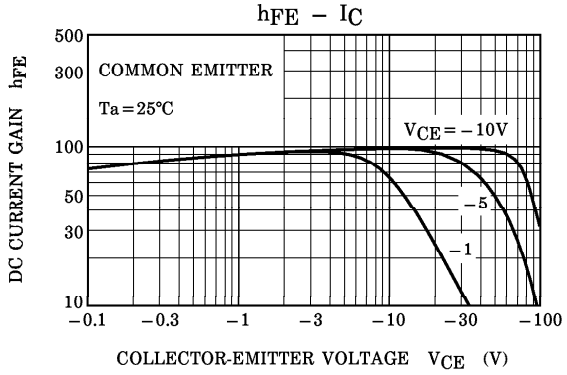
I_C – V_{CE} (LOW CURRENT REGION)



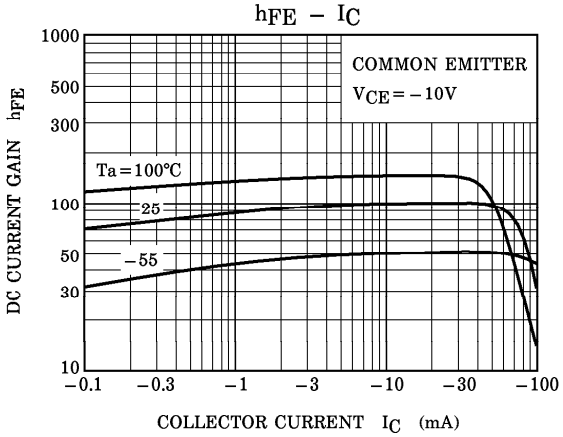
I_C – V_{CE} (LOW CURRENT REGION)



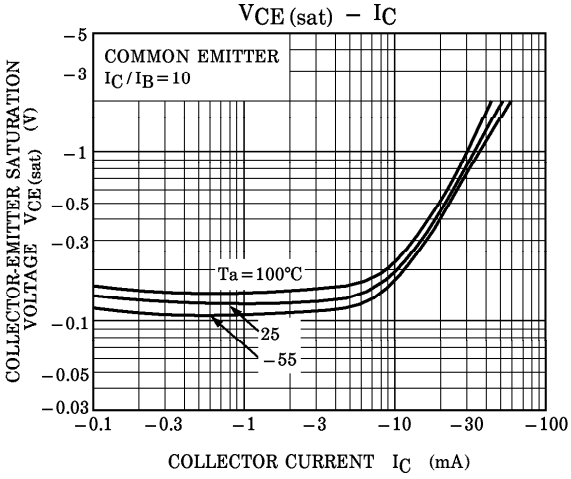
h_{FE} – I_C



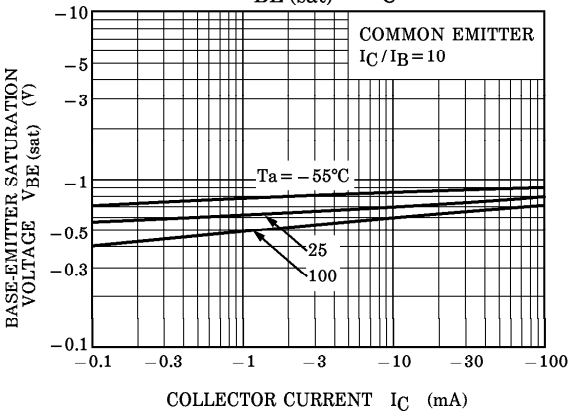
h_{FE} – I_C



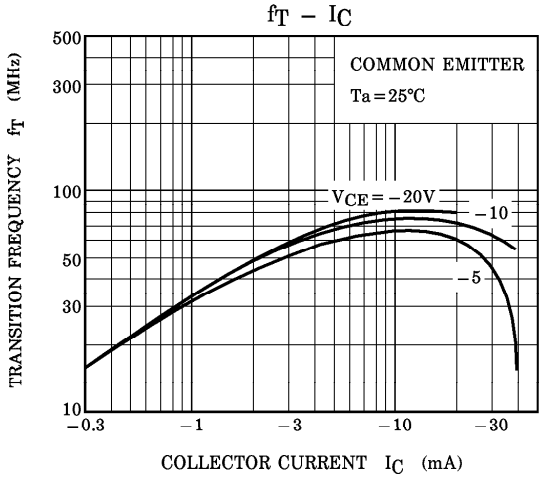
$V_{CE\,(sat)}$ – I_C



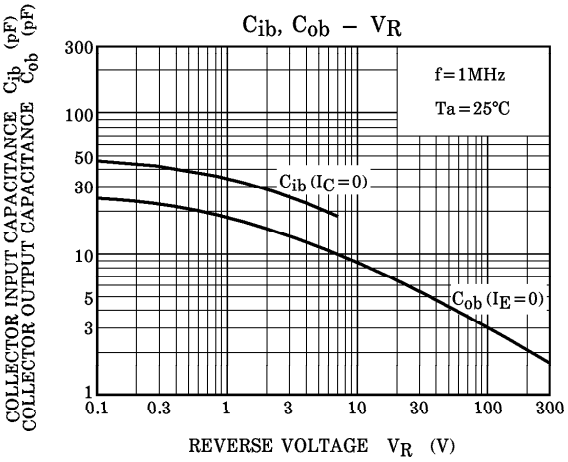
$V_{BE\,(sat)}$ – I_C



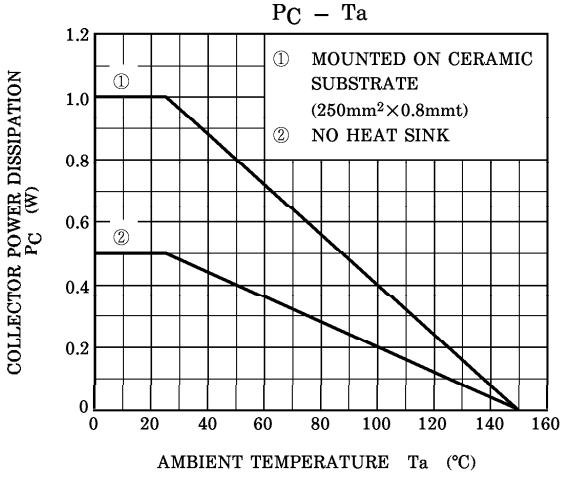
f_T – I_C



C_{ib}, C_{ob} – V_R



P_C – Ta



SAFE OPERATING AREA