TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (PCT PROCESS)

2SC3515

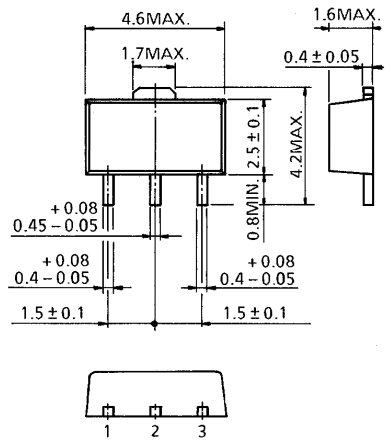
HIGH VOLTAGE CONTROL APPLICATIONS

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}=3pF (Typ.)
- Complementary to 2SA1384
- Small Flat Package
- P_C=1~2W (Mounted Ceramic Substrate)

Unit in mm



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

PW-MINI	
JEDEC	—
JEITA	SC-62
TOSHIBA	2-5K1A

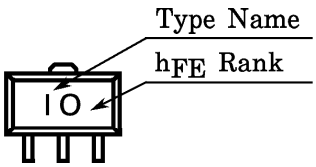
Weight : 0.05g (Typ.)

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}	6	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 (Note)	1000	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55~150	°C

(Note) : Mounted on ceramic substrate ($250mm^2 \times 0.8mmt$)

MARKING

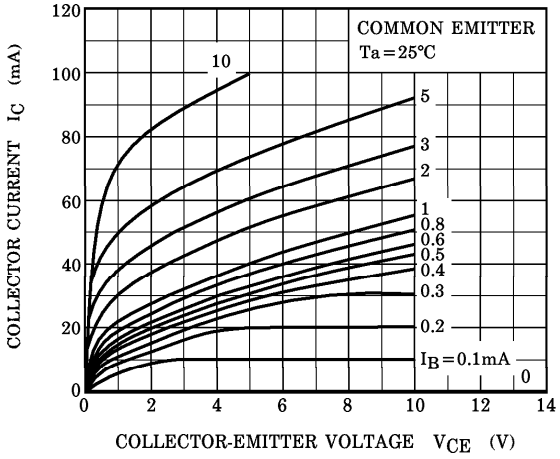


ELECTRICAL CHARACTERISTICS (Ta = 25°C)

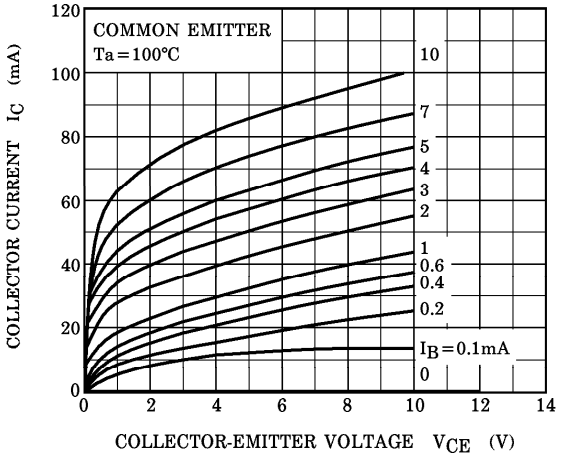
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB} = 300V, I_E = 0	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 6V, I_C = 0	—	—	0.1	μA
Collector-Base Breakdown Voltage	$V_{(BR)\,CBO}$	I_C = 0.1mA, I_E = 0	300	—	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR)\,CEO}$	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	80	—	MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 20V, I_E = 0, f = 1MHz	—	3	4	pF

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

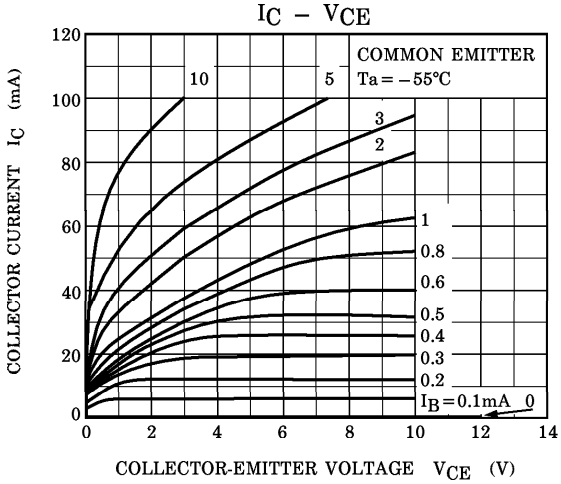
$I_C - V_{CE}$



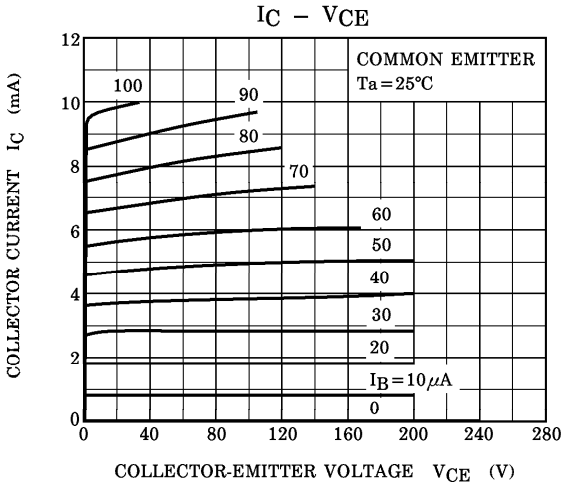
$I_C - V_{CE}$



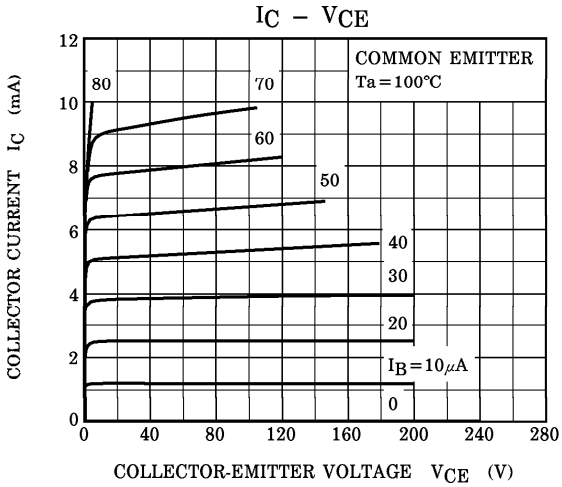
$I_C - V_{CE}$



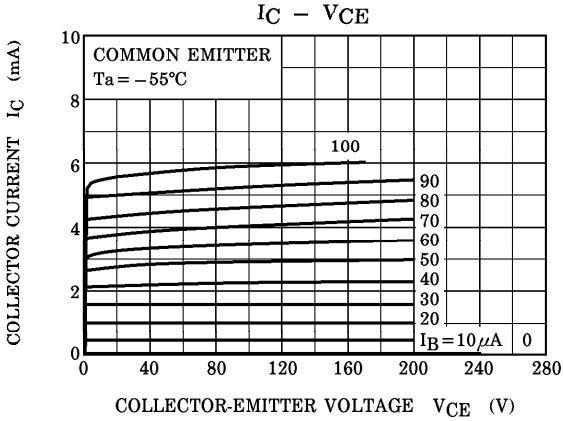
$I_C - V_{CE}$



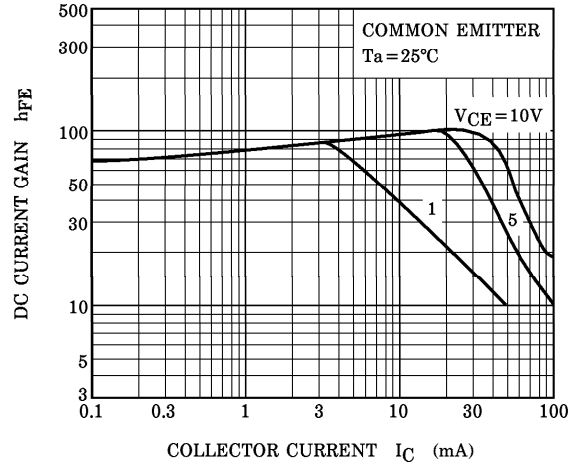
$I_C - V_{CE}$



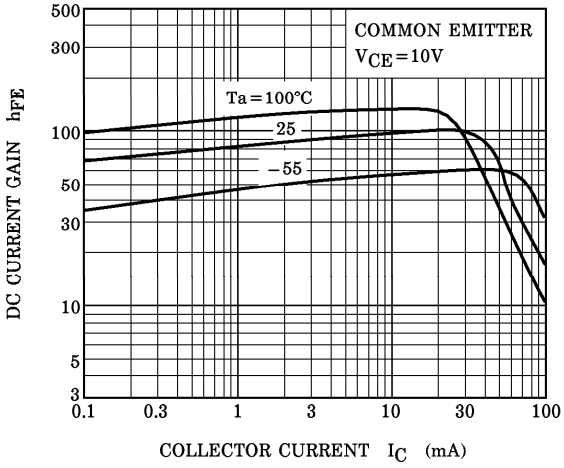
$I_C - V_{CE}$



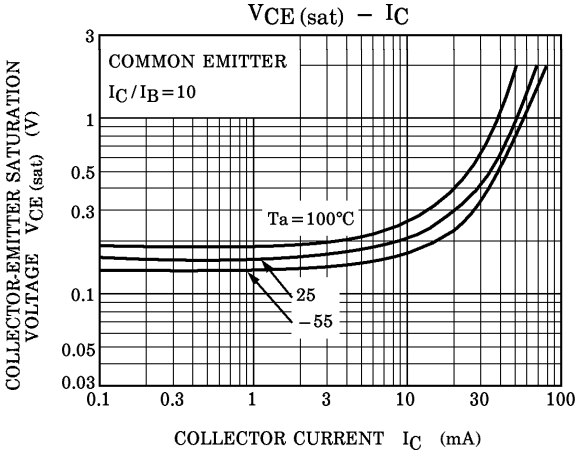
h_{FE} – I_C



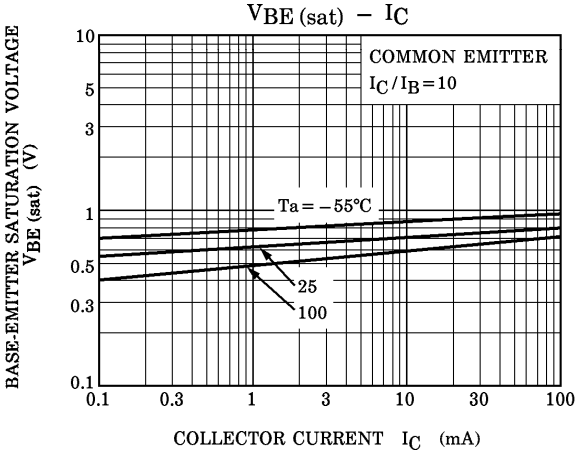
h_{FE} – I_C



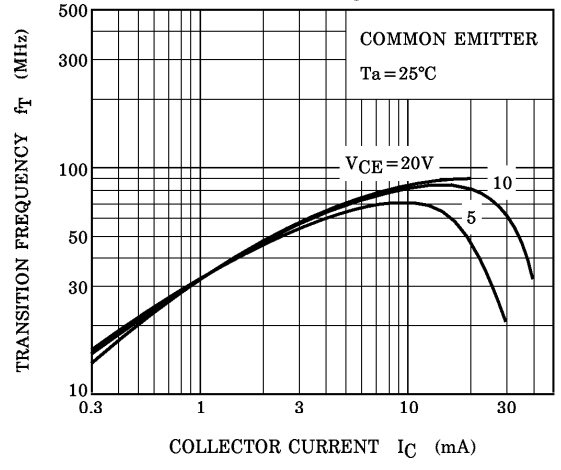
$V_{CE\,(sat)}$ – I_C



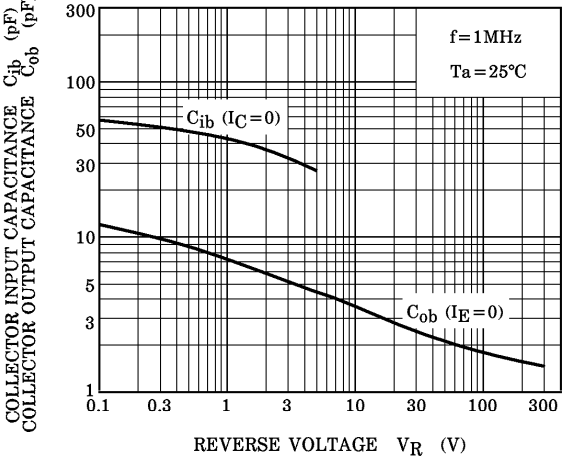
$V_{BE\,(sat)}$ – I_C



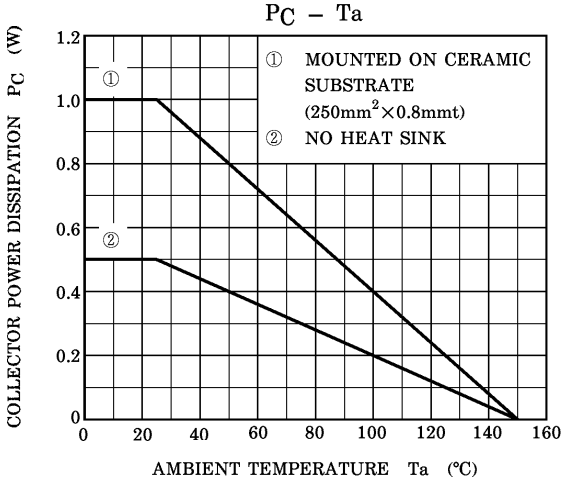
f_T – I_C



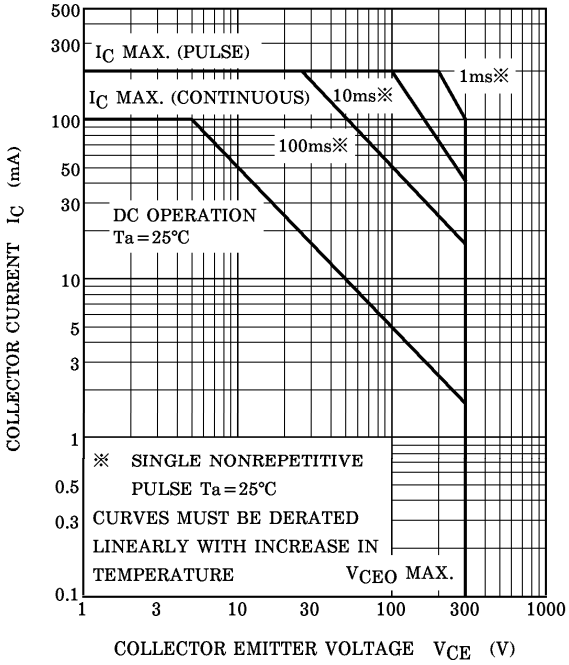
C_{ib}, C_{ob} – V_R



P_C – Ta



SAFE OPERATING AREA



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