2SA510
2SA512

SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

INDUSTRIAL APPLICATIONS

HIGH FREQUENCY AMPLIFIER APPLICATIONS.

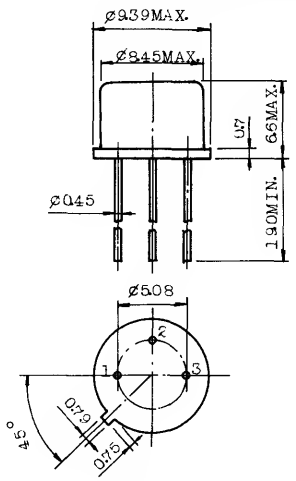
HIGH VOLTAGE SWITCHING APPLICATIONS.

REGULATOR APPLICATIONS.

FEATURES:

- High Breakdown Voltage : V_{CEO}=-100V (2SA510)
  : V_{CEO}=-60V (2SA512)
- Various Uses for Medium Power
  : I_C=-1.5A (Max.), P_C=800mW (Max.)
- Complementary to 2SC510 and 2SC512.

Unit in mm



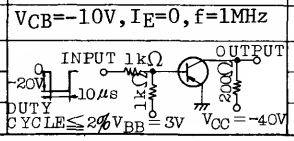
JEDEC	TO-39
EIAJ	TC-5, TB-5B
TOSHIBA	2-8B1A

Weight : 1.13g

MAXIMUM RATINGS (Ta=25°C)

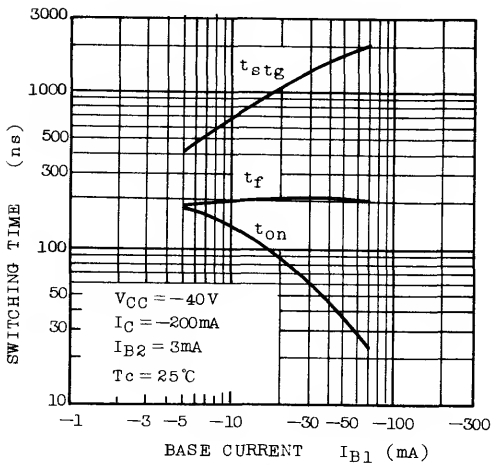
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	2SA510	V_{CBO}	-120	V
	2SA512		-80	
Collector-Emitter Voltage	2SA510	V_{CEO}	-100	V
	2SA512		-60	
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current		I_C	-1.5	A
Base Current		I_B	-300	mA
Collector Power Dissipation	Ta=25°C	P_C	800	mW
	Tc=25°C		8	W
Junction Temperature		T_j	175	°C
Storage Temperature Range		Tstg	-65∿175	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

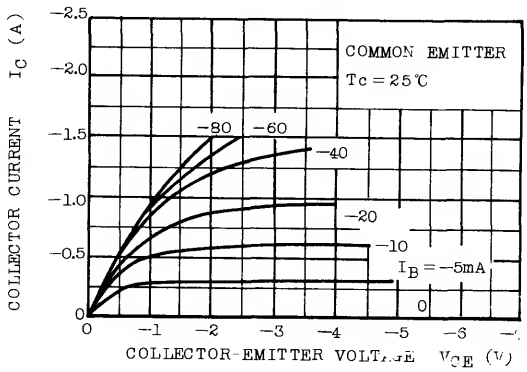
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=-30V, I_E=0	-	-	-1.0	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-5.0	μA
DC Current Gain		$h_{FE(1)}$ (Note)	V_{CE}=-2V, I_C=-200mA	30	-	150	
		$h_{FE(2)}$	V_{CE}=-5V, I_C=-1A	15	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=-200mA, I_B=-20mA	-	-0.3	-0.6	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	I_C=-200mA, I_B=-20mA	-	-0.85	-1.0	V
Transition Frequency		f_T	V_{CE}=-10V, I_C=-30mA	20	60	-	MHz
Collector Output Capacitance		Cob	V_{CB}=-10V, I_E=0, f=1MHz	-	43	50	pF
Switching Time	Turn-on Time	t_{on}		-	0.12	-	μs
	Storage Time	t_{stg}		-	2.0	-	
	Fall Time	t_f		-	0.2	-	

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

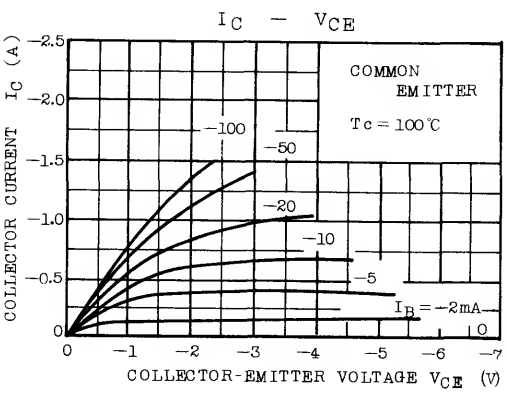
SWITCHING CHARACTERISTICS



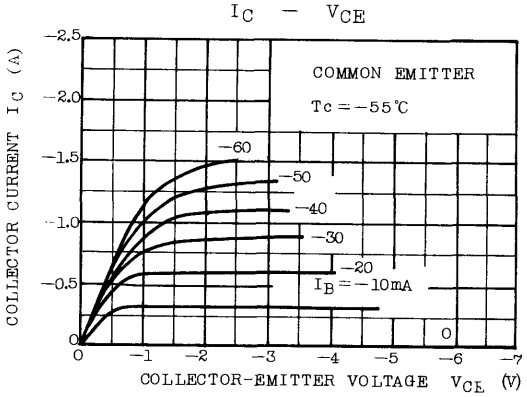
I_C − V_{CE}



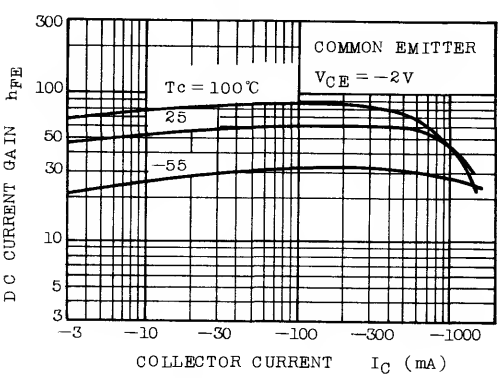
I_C − V_{CE}



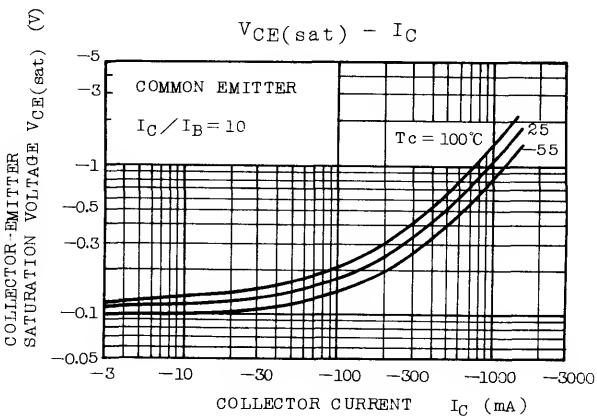
I_C − V_{CE}



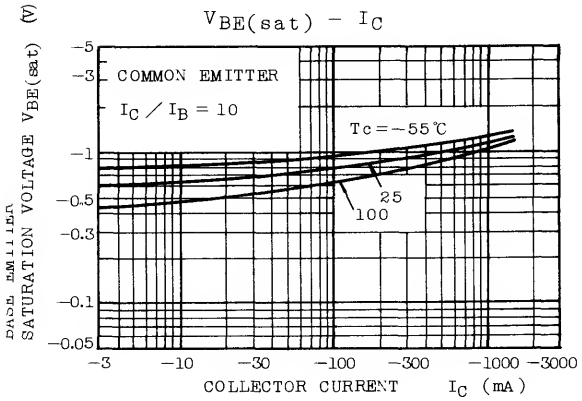
h_{FE} − I_C



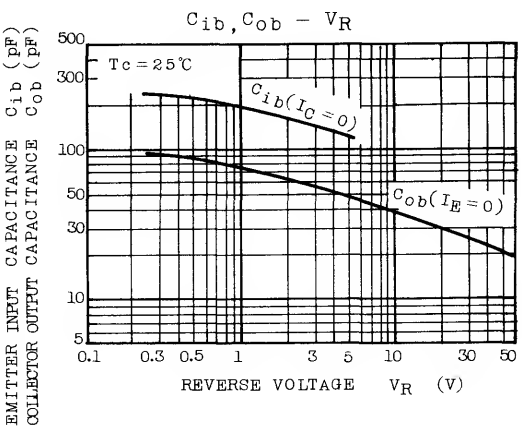
$V_{CE(sat)}$ − I_C



$V_{BE(sat)} - I_C$



$C_{ib}, C_{ob} - V_R$



P_C − Ta