SILICON NPN TRIPLE DIFFUSED TYPE (PCT PROCESS)

2SC505
2SC506

HIGH VOLTAGE AMPLIFIER APPLICATIONS.

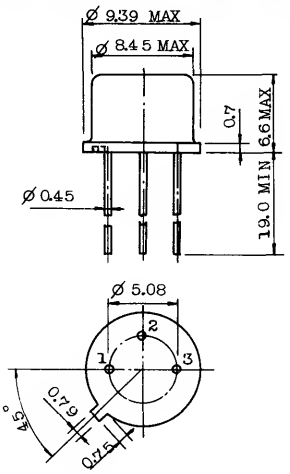
HIGH VOLTAGE SWITCHING APPLICATIONS.

FEATURES:

· High Breakdown Voltage : V_{CEO}=300V (2SC505)

: V_{CEO}=200V (2SC506)

Unit in mm



1. EMITTER
2. BASE
3. COLLECTOR (CASE)

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

Weight : 1.14g

MAXIMUM RATINGS (Ta=25°C)

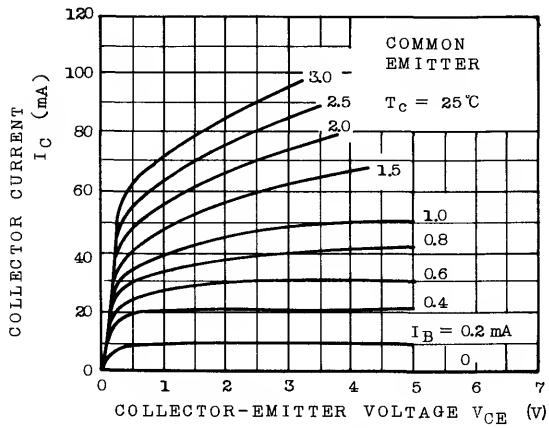
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	2SC505	V_{CBO}	300	V
	2SC506		200	
Collector-Emitter Voltage	2SC505	V_{CEO}	300	V
	2SC506		200	
Emitter-Base Voltage		V_{EBO}	3	V
Collector Current		I_C	200	mA
Base Current		I_B	50	mA
Collector Power Dissipation		P_C	600	mW
Junction Temperature		T_j	175	°C
Storage Temperature Range		T_{stg}	-65∿175	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

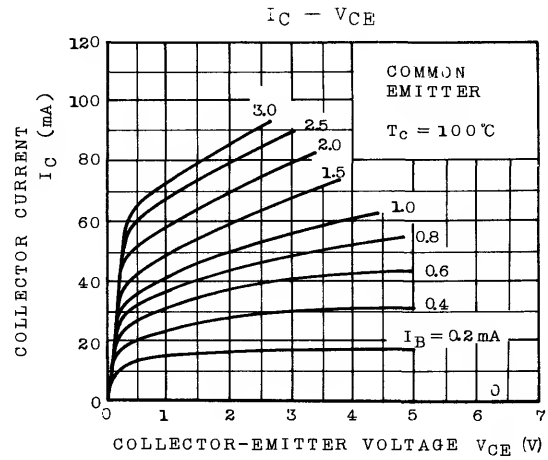
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=100V, I_E=0	-	-	1.0	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=3V, I_C=0	-	-	1.0	μA
Collector-Base Breakdown Voltage	2SC505	$V_{(BR)CBO}$	I_C=0.1mA, I_E=0	300	-	-	V
	2SC506			200	-	-	
Collector-Emitter Breakdown Voltage	2SC505	$V_{(BR)CEO}$	I_C=2mA, I_B=0	300	-	-	V
	2SC506			200	-	-	
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	I_E=0.1mA, I_C=0	3	-	-	V
DC Current Gain		h_{FE} (Note)	V_{CE}=5V, I_C=50mA	40	-	140	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	I_C=50mA, I_B=5mA	-	-	1.0	V
	Base-Emitter	$V_{BE(sat)}$	I_C=50mA, I_B=5mA	-	-	1.5	
Transition Frequency		f_T	V_{CE}=10V, I_C=10mA	30	60	-	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	-	20	pF
Base Intrinsic Resistance		$r_{bb'}$	V_{CE}=10V, I_E=-3mA, f=30MHz	-	-	20	Ω
Switching Time	Turn-on Time	t_{on}	V_{CC}=50V, I_C=10mA, I_{B1}=-I_{B2}=1mA	-	0.3	-	μs
	Storage Time	t_{stg}		-	4	-	
	Fall Time	t_f		-	0.5	-	

Note: h_{FE} Classification R: 40∿80, O: 70∿140

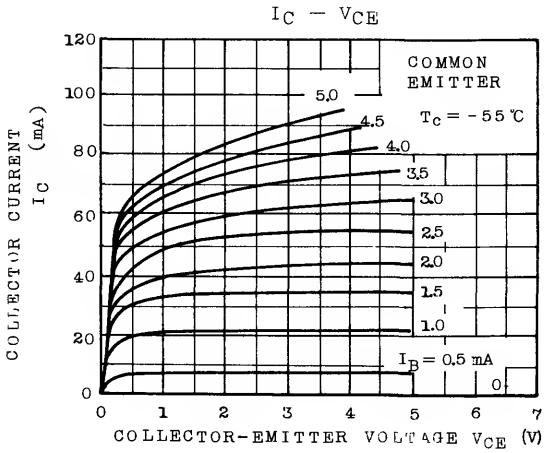
I_C – V_{CE}



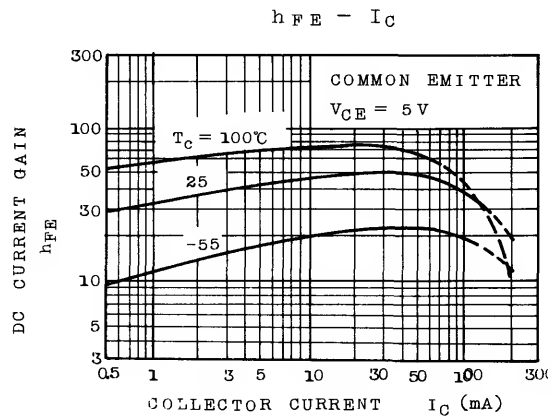
I_C – V_{CE}



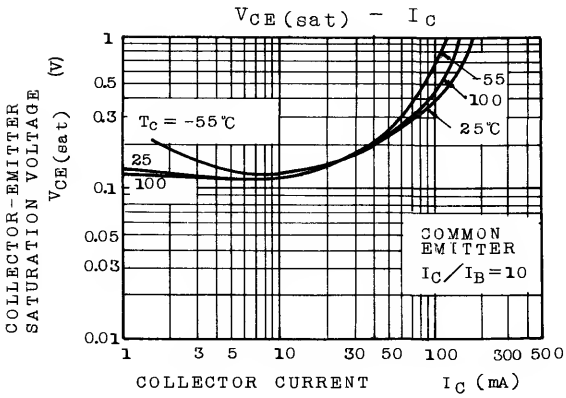
I_C – V_{CE}



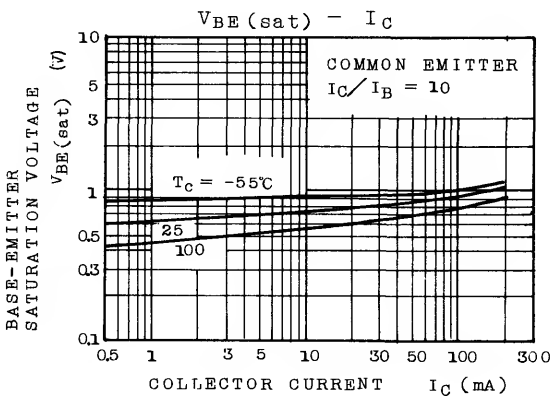
h_{FE} – I_C



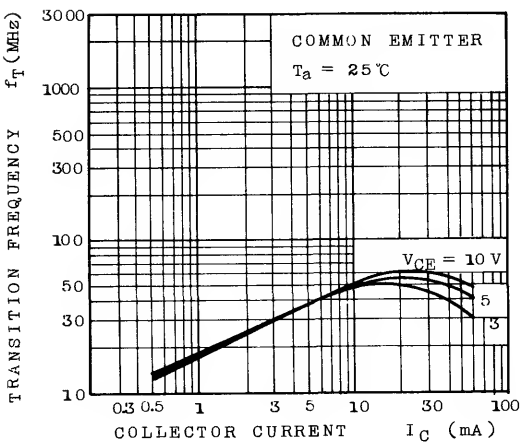
$V_{CE(sat)}$ – I_C



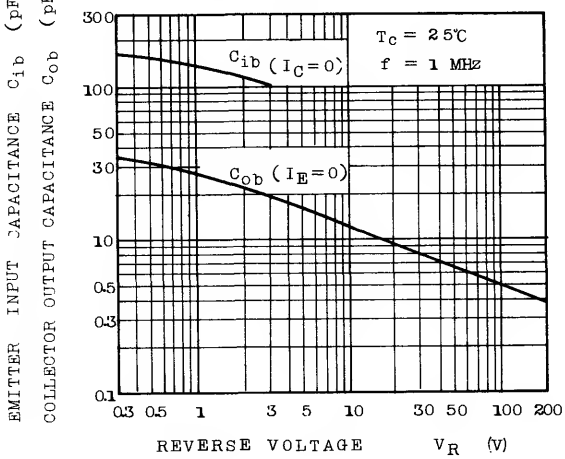
$V_{BE(sat)}$ – I_C



f_T – I_C



C_{ib}, C_{ob} – V_R



P_C – T_a