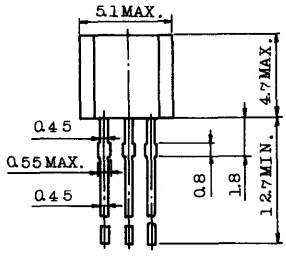
2SA1164

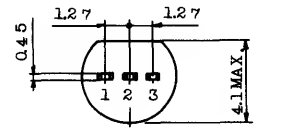
SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

HIGH FREQUENCY AMPLIFIER APPLICATIONS.
LOW FREQUENCY AMPLIFIER APPLICATIONS.
HIGH SPEED SWITCHING APPLICATIONS.

- High Transition Frequency : f_T=400MHz(Typ.)
- Low $V_{CE(sat)}$: $V_{CE(sat)}$=0.5V(Max.)
- Small Collector Output Capacitance : C_{ob}=4pF(Max.)
- High Speed Switching.
- Designed for Complementary Use with 2SC2754.

Unit in mm





1. EMITTER
2. COLLECTOR
3. BASE

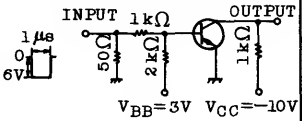
JEDEC	TO-92
EIAJ	SC-43
TOSHIBA	2-5F1B

Weight : 0.21g

MAXIMUM RATINGS (Ta=25°C)

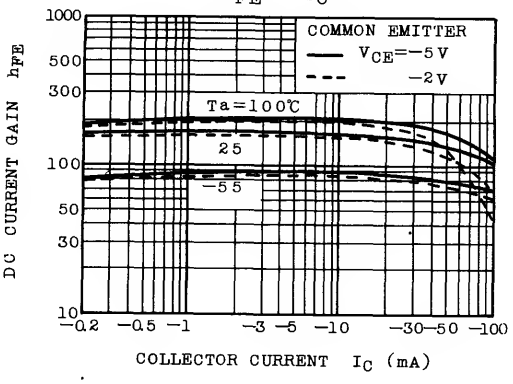
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-35	V
Collector-Emitter Voltage	V_{CEO}	-30	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA
Base Current	I_B	-50	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	-55~125	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

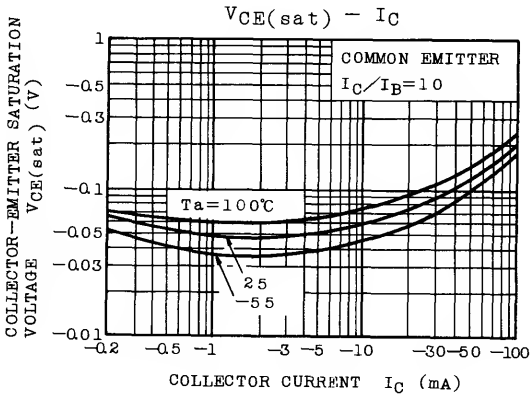
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=-35V, I_E=0	-	-	-0.1	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-0.1	μA
DC Current Gain		h_{FE} (Note)	V_{CE}=-12V, I_C=-2mA	70	-	400	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=-10mA, I_B=-1mA	-	-	-0.5	V
Base-Emitter Voltage		V_{BE}	V_{CE}=-12V, I_C=-2mA	-0.5	-	-0.8	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	I_C=-10mA, I_B=-1mA	-	-	-1.0	V
Transition Frequency		f_T	V_{CE}=-12V, I_C=-10mA	100	400	-	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz	-	2.5	4	pF
Switching Time	Turn-on Time	t_{on}		-	30	-	ns
	Storage Time	t_{stg}		-	250	-	
	Fall Time	t_f		-	70	-	

Note: h_{FE} Classification O : 70~140, Y : 120~240, GR : 200~400

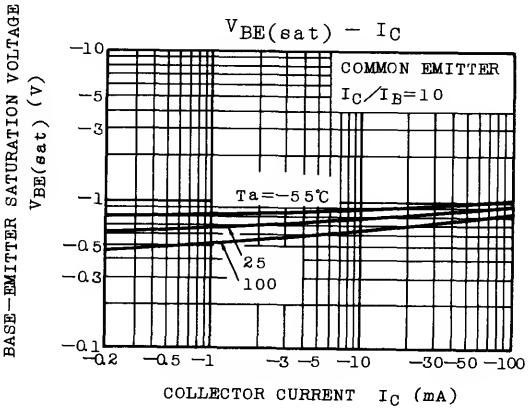
h_{FE} – I_C



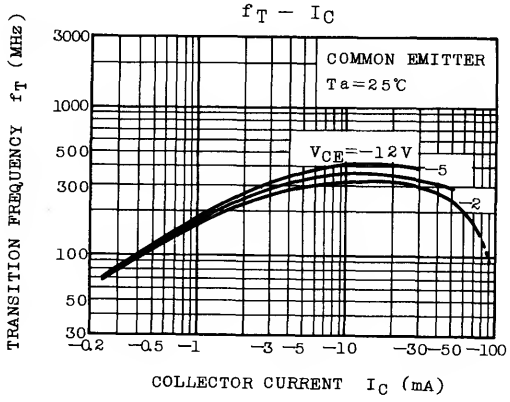
$V_{CE(sat)}$ – I_C



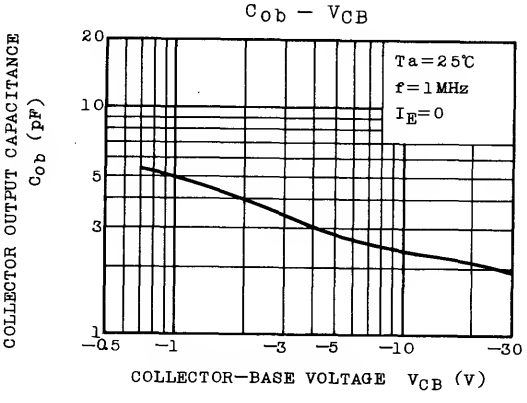
$V_{BE(sat)}$ – I_C



f_T – I_C



C_{ob} – V_{CB}



P_C – Ta