2SC3007

SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

HIGH CURRENT SWITCHING APPLICATIONS.

HIGH SPEED DC-DC CONVERTER APPLICATION.

INDUSTRIAL APPLICATIONS

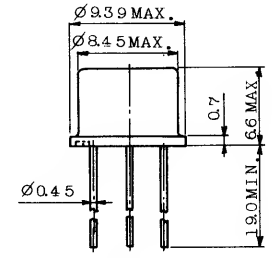
FEATURES:

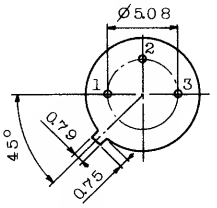
. Low Collector Saturation Voltage

: $V_{CE(sat)}$=0.5V(Max.) at I_C=1A

. High Speed Switching Time : t_{stg}=1.0μs(Typ.)

Unit in mm





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

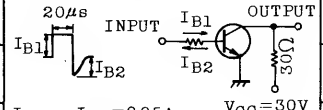
JEDEC	TO-39
EIAJ	TC-5, TB-5B
TOSHIBA	2-8B1A

Weight : 1.13g

MAXIMUM RATINGS (Ta=25°C)

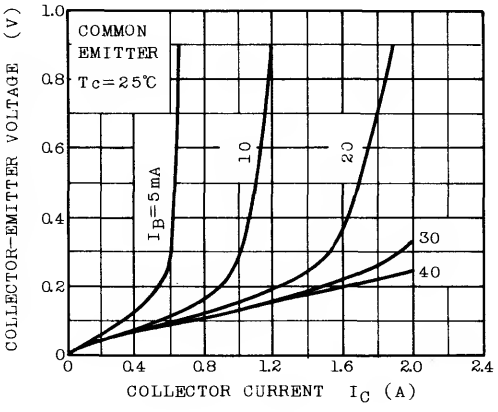
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	2	A
Base Current	I_B	0.2	A
Collector Power Dissipation	P_C	800	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

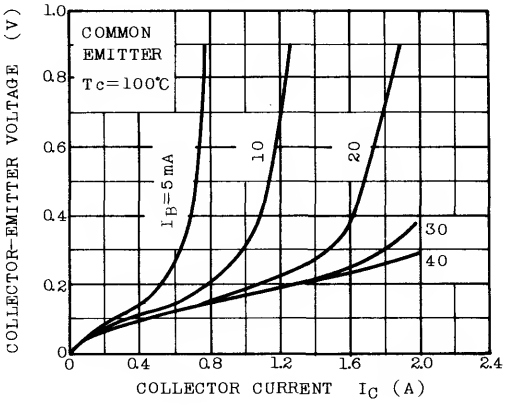
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=50V, I_E=0	-	-	1.0	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=5V, I_C=0	-	-	1.0	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C=10mA, I_B=0	50	-	-	V
DC Current Gain		$h_{FE(1)}$	V_{CE}=2V, I_C=0.5A	70	-	240	
		$h_{FE(2)}$	V_{CE}=2V, I_C=1.5A	40	-	-	
Saturation Voltage	Base-Emitter	$V_{CE(sat)}$	I_C=1A, I_B=0.05A	-	-	0.5	V
	Collector-Emitter	$V_{BE(sat)}$	I_C=1A, I_B=0.05A	-	-	1.2	
Transition Frequency		f_T	V_{CE}=2V, I_C=0.5A	-	100	-	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	30	-	pF
Switching Time	Turn-on Time	t_{on}		-	0.1	-	μs
	Fall Time	t_{stg}		-	1.0	-	
	Storage Time	t_f		-	0.1	-	

I_{B1}=-I_{B2}=0.05A
DUTY CYCLE≦1%

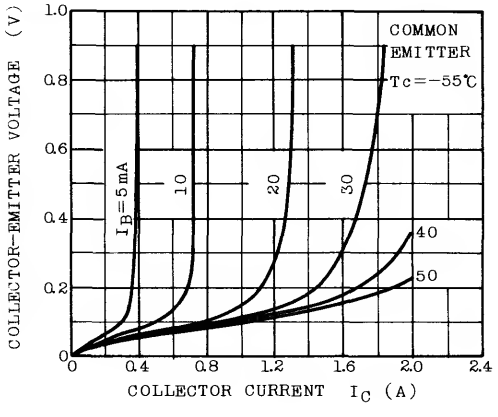
V_{CE} – I_C



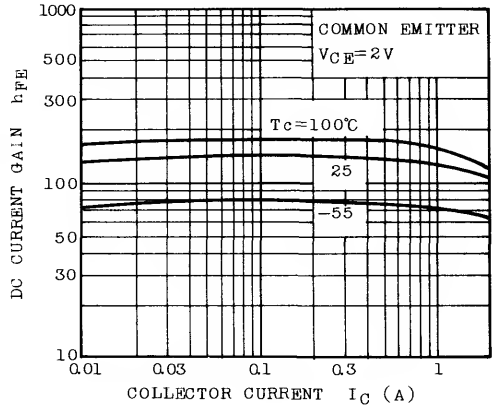
V_{CE} – I_C



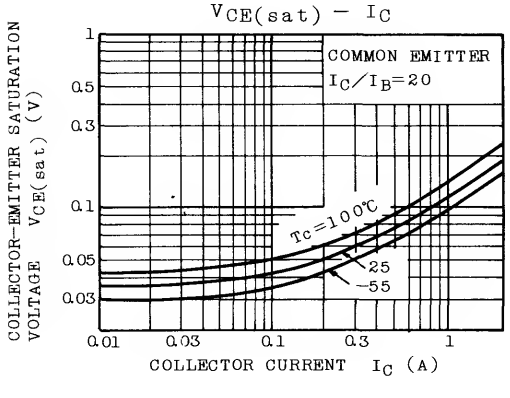
V_{CE} – I_C



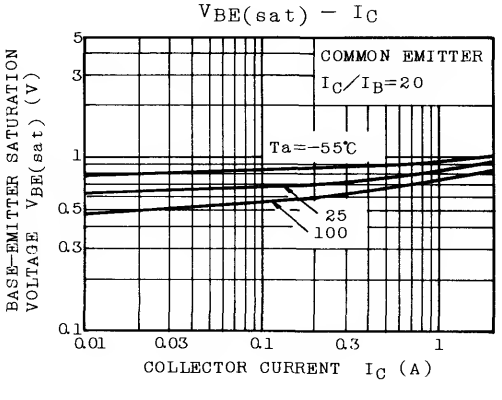
h_{FE} – I_C



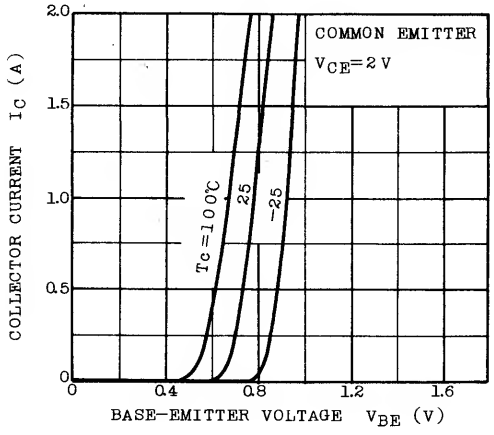
$V_{CE(sat)}$ – I_C



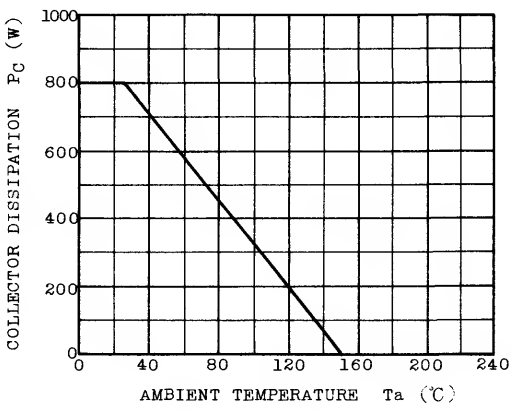
$V_{BE(sat)}$ – I_C



$I_C - V_{BE}$



$P_C - T_C$



SAFE OPERATING AREA