

## 2SC3007

SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

HIGH CURRENT SWITCHING APPLICATIONS.  
HIGH SPEED DC-DC CONVERTER APPLICATION.

**FEATURES:**

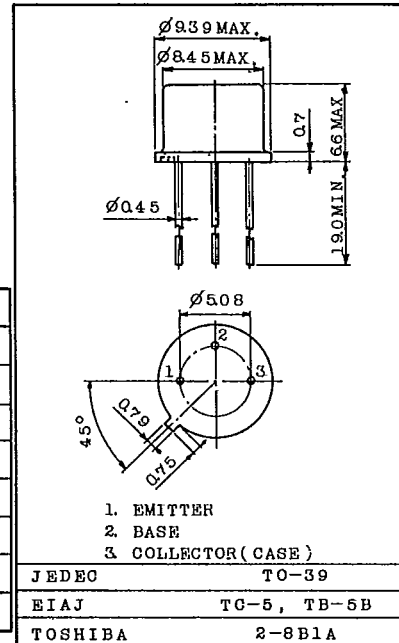
- Low Collector Saturation Voltage  
:  $V_{CE(sat)}=0.5V(\text{Max.})$  at  $I_C=1A$
- High Speed Switching Time :  $t_{stg}=1.0\mu s(\text{Typ.})$

**MAXIMUM RATINGS (Ta=25°C)**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	50	V
Emitter-Base Voltage	V <sub>EB0</sub>	5	V
Collector Current	I <sub>C</sub>	2	A
Base Current	I <sub>B</sub>	0.2	A
Collector Power Dissipation	P <sub>C</sub>	800	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ 150	°C

**INDUSTRIAL APPLICATIONS**

Unit in mm

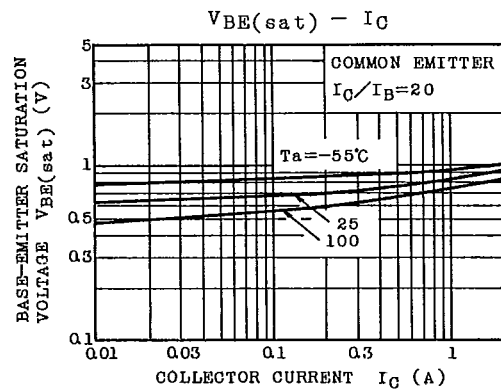
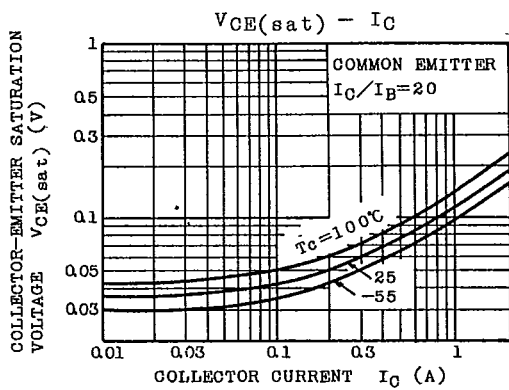
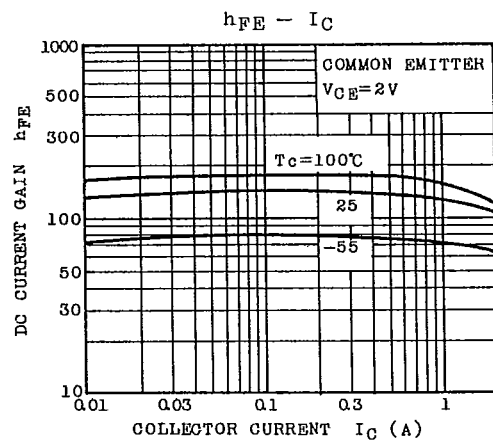
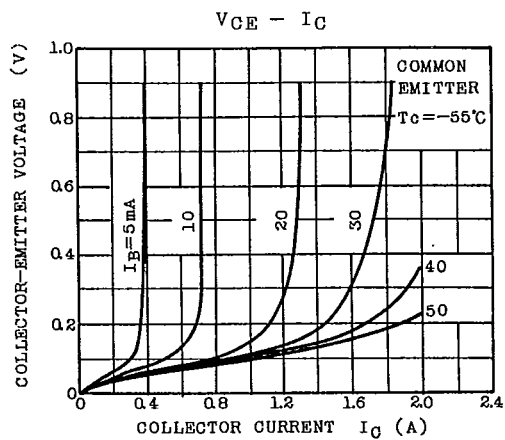
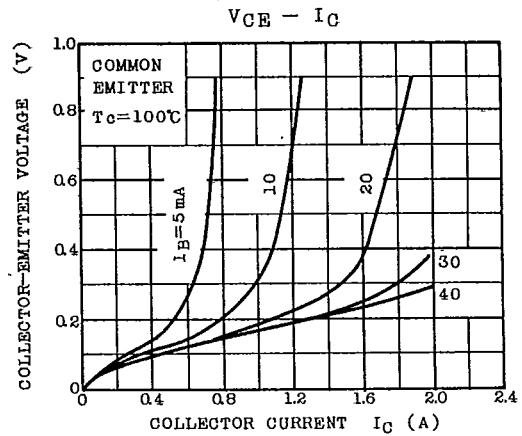
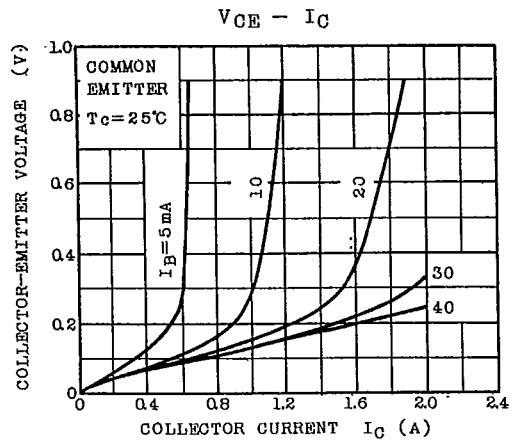


**ELECTRICAL CHARACTERISTICS (Ta=25°C)**

Weight : 1.13g

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I <sub>CBO</sub>	V <sub>CB</sub> =50V, I <sub>E</sub> =0	-	-	1.0	μA
Emitter Cut-off Current		I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0	-	-	1.0	μA
Collector-Emitter Breakdown Voltage		V(BR)CEO	I <sub>C</sub> =10mA, I <sub>B</sub> =0	50	-	-	V
DC Current Gain		h <sub>FE</sub> (1)	V <sub>CE</sub> =2V, I <sub>C</sub> =0.5A	70	-	240	
		h <sub>FE</sub> (2)	V <sub>CE</sub> =2V, I <sub>C</sub> =1.5A	40	-	-	
Saturation Voltage	Base-Emitter	V <sub>CE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =0.05A	-	-	0.5	V
	Collector-Emitter	V <sub>BE(sat)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =0.05A	-	-	1.2	
Transition Frequency		f <sub>T</sub>	V <sub>CE</sub> =2V; I <sub>C</sub> =0.5A	-	100	-	MHz
Collector Output Capacitance		C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz	-	30	-	pF
Switching Time	Turn-on Time	t <sub>on</sub>		-	0.1	-	μs
	Fall Time	t <sub>stg</sub>		-	1.0	-	
	Storage Time	t <sub>f</sub>		-	0.1	-	

TOSHIBA CORPORATION



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