

# 2SC3007

SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

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

**FEATURES:**

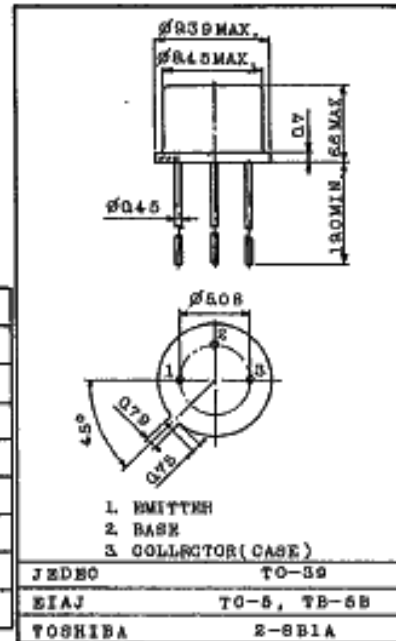
- Low Collector Saturation Voltage  
:  $V_{CE(sat)}=0.5V(\text{Max.})$  at  $I_C=1A$
- High Speed Switching Time :  $t_{stg}=1.0\mu s(\text{Typ.})$

**MAXIMUM RATINGS ( $T_a=25^\circ C$ )**

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	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 ~ 150	$^\circ C$

**INDUSTRIAL APPLICATIONS**

Unit in mm

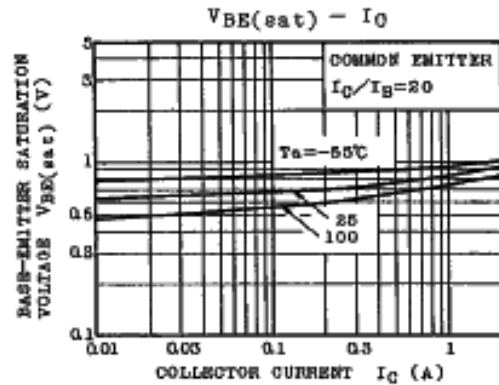
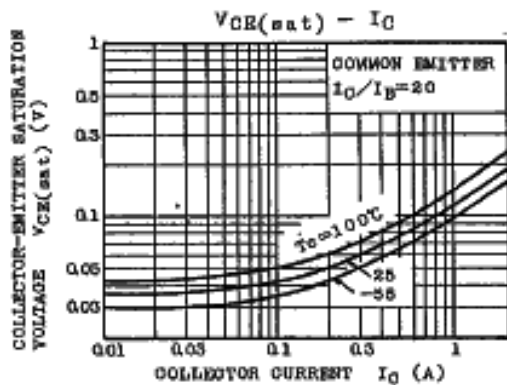
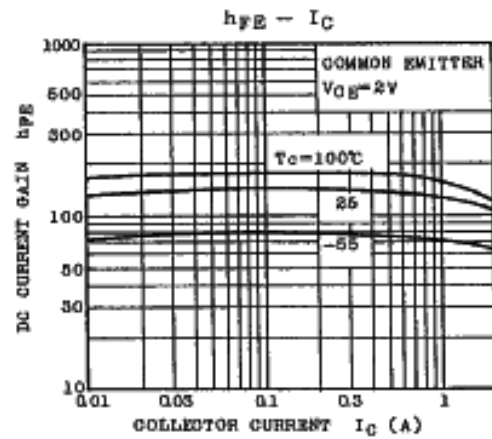
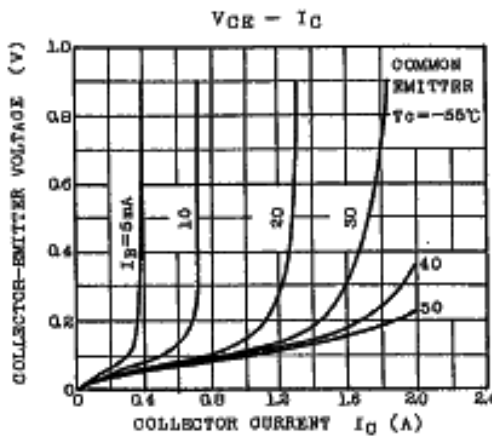
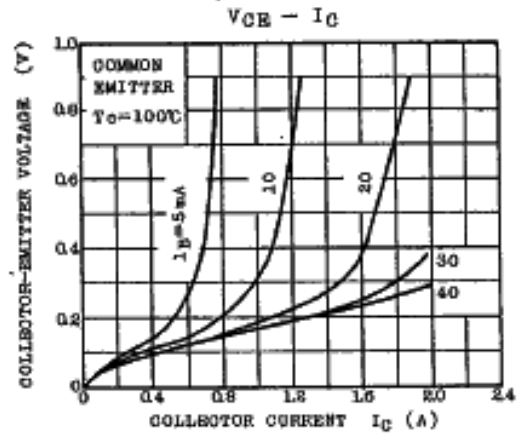
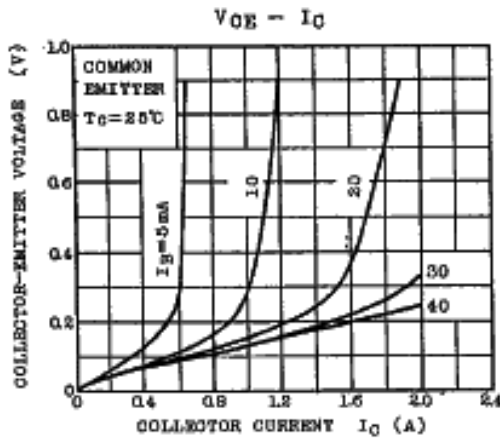


Weight : 1.13g

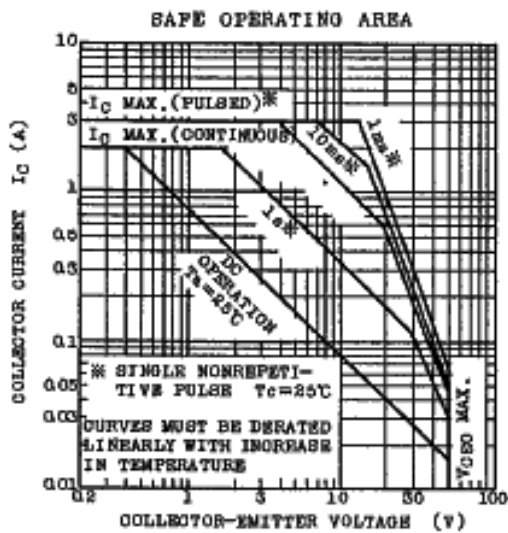
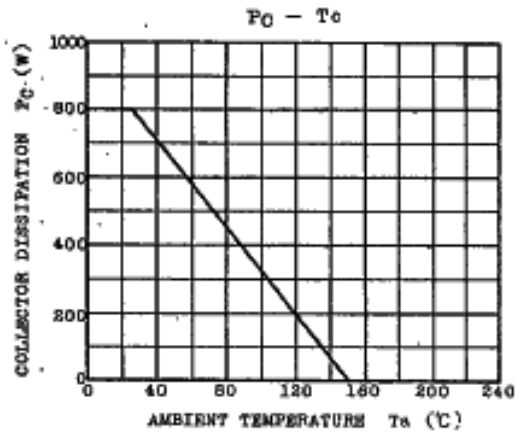
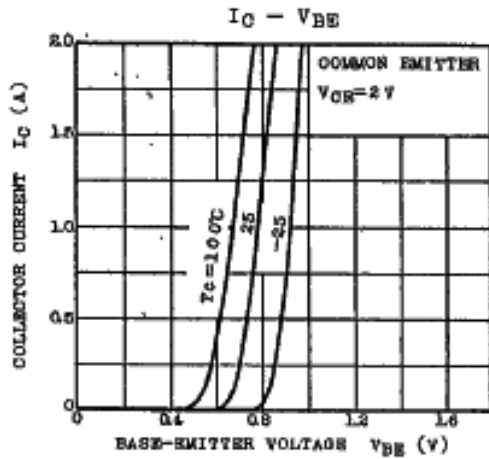
**ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )**

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB}=50V, I_E=0$	-	-	1.0	$\mu A$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB}=5V, I_C=0$	-	-	1.0	$\mu A$
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	-	$\mu s$
	Fall Time	$t_{stg}$		-	1.0	-	
	Storage Time	$t_f$		-	0.1	-	

TOSHIBA CORPORATION



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