

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07427

D T-31-23

2SC594

SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

HIGH FREQUENCY AMPLIFIER APPLICATIONS.

VIDEO AMPLIFIER APPLICATIONS.

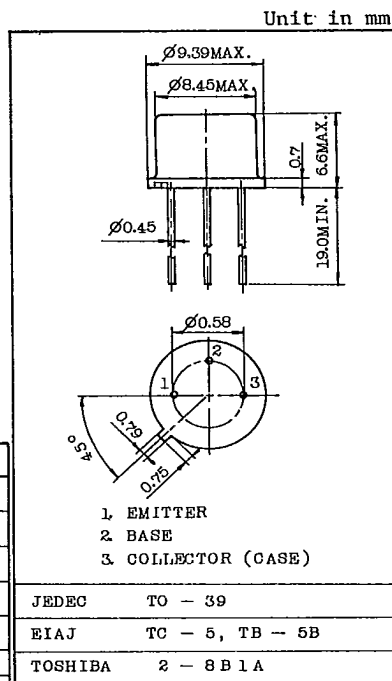
HIGH SPEED SWITCHING APPLICATIONS.

FEATURES:

- High Transition Frequency : $f_T=200\text{MHz}$ (Typ.)
- Low Output Capacitance : $C_{ob}=3.5\text{pF}$ (Typ.)
- Low Saturation Voltage
: $V_{CE(sat)}=0.3\text{V}$ (Max.) at $I_C=100\text{mA}$, $I_B=10\text{mA}$
- Complementary to 2SA594.

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Base Current	I_B	50	mA
Collector Power Dissipation	P_C	$T_a=25^\circ\text{C}$	750
		$T_c=25^\circ\text{C}$	5
			mW
Junction Temperature	T_j	175	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65~175	$^\circ\text{C}$



Weight : 1.13g

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=45\text{V}$, $I_E=0$	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$	-	-	0.1	μA
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE}=1\text{V}$, $I_C=10\text{mA}$	40	-	240	
	$h_{FE(2)}$	$V_{CE}=3\text{V}$, $I_C=200\text{mA}$	20	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100\text{mA}$, $I_B=10\text{mA}$	-	-	0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100\text{mA}$, $I_B=10\text{mA}$	-	-	1.0	V
Transition Frequency	f_T	$V_{CE}=10\text{V}$, $I_C=10\text{mA}$	100	200	-	MHz
Input Impedance (Real Part)	r_{ie}	$V_{CE}=10\text{V}$, $I_E=-10\text{mA}$, $f=200\text{MHz}$	-	-	120	Ω
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$	-	3.5	5.0	pF
Switching Time	Turn-on Time	t_{on}	-	30	-	ns
	Storage Time	t_{stg}	-	250	-	
	Fall Time	t_f	-	30	-	

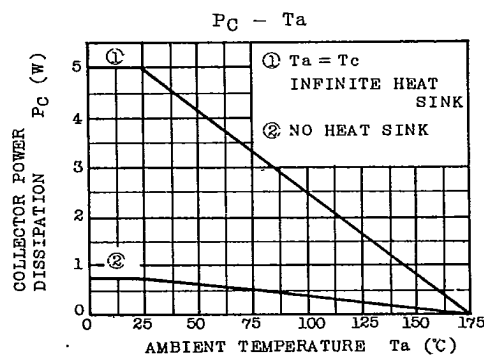
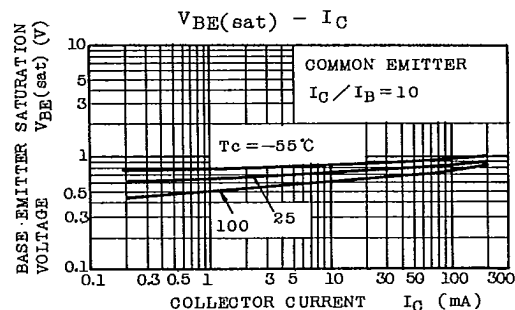
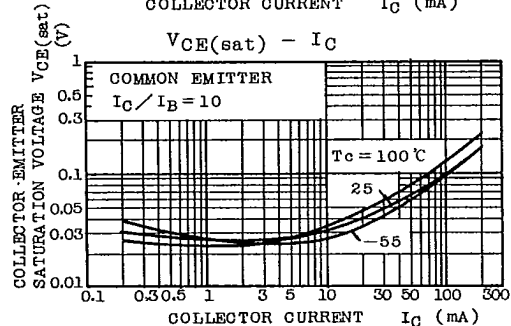
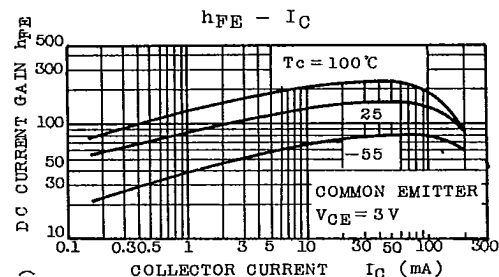
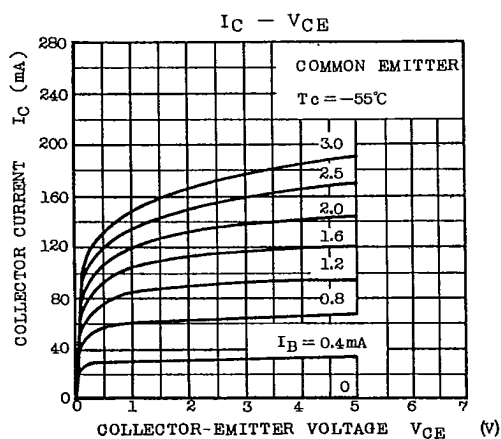
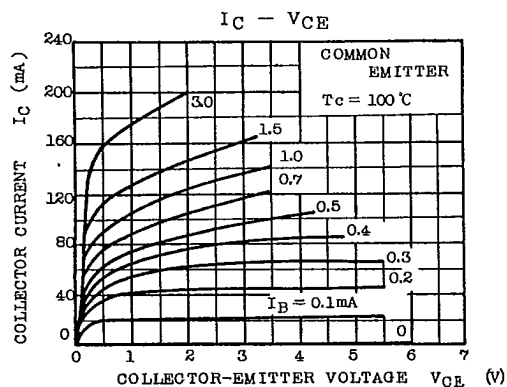
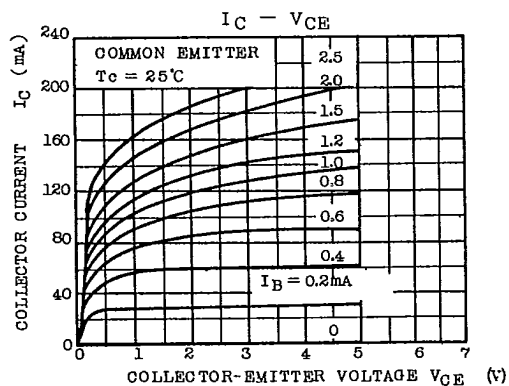
Note : $h_{FE(1)}$ Classification R : 40~80, O : 70~140, Y : 120~240,

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