

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07221 D T-37-15

SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA503

2SA504

INDUSTRIAL APPLICATIONS
Unit in mm

HIGH FREQUENCY AMPLIFIER APPLICATIONS.

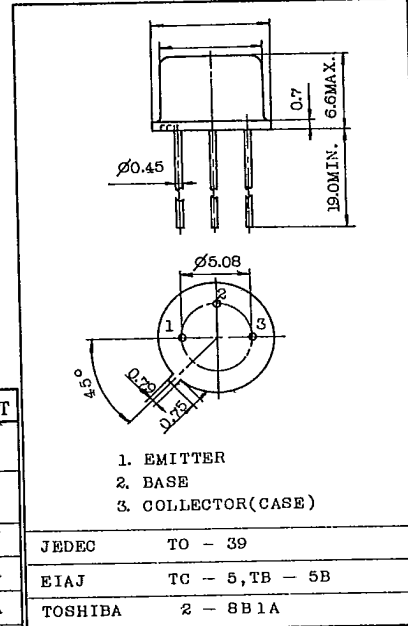
HIGH SPEED SWITCHING APPLICATIONS.

FEATURES:

- High Transition Frequency : $f_T=80\text{MHz}$ (Typ.)
- High Breakdown Voltage : $V_{CE0}=-80\text{V}$ (2SA503)
: $V_{CE0}=-60\text{V}$ (2SA504)
- Low Saturation Voltage : $V_{CE(sat)}=-0.12\text{V}$ (Typ.)
(at $I_C=-150\text{mA}$, $I_B=-15\text{mA}$)
- Complementary to 2SC503 and 2SC504.

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	2SA503	V_{CBO}	-100	V
	2SA504		-80	
Collector-Emitter Voltage	2SA503	V_{CEO}	-80	V
	2SA504		-60	
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current		I_C	-600	mA
Base Current		I_B	-100	mA
Collector Power Dissipation	$T_a=25^\circ\text{C}$	P_C	800	mW
	$T_c=25^\circ\text{C}$		6	
Junction Temperature		T_j	175	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-65~175	$^\circ\text{C}$



Weight : 1.13g

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

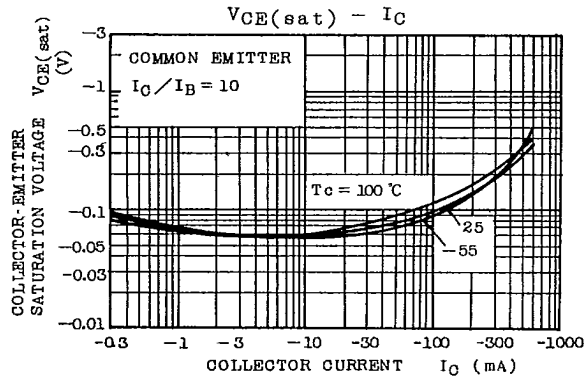
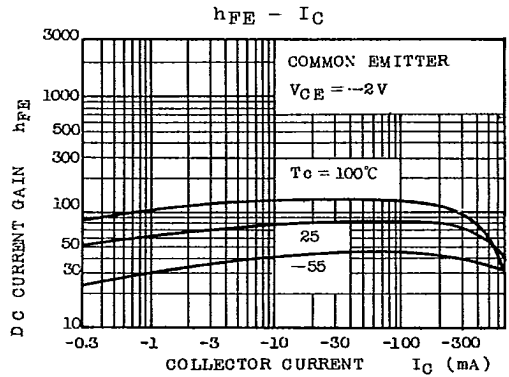
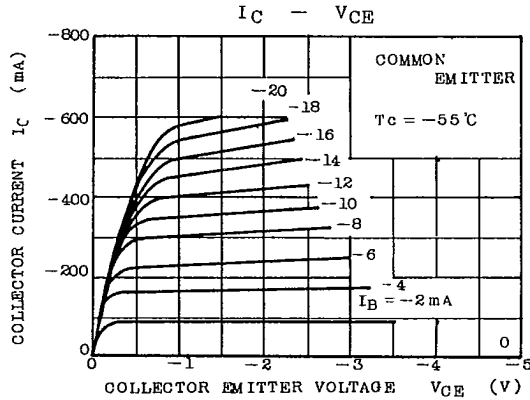
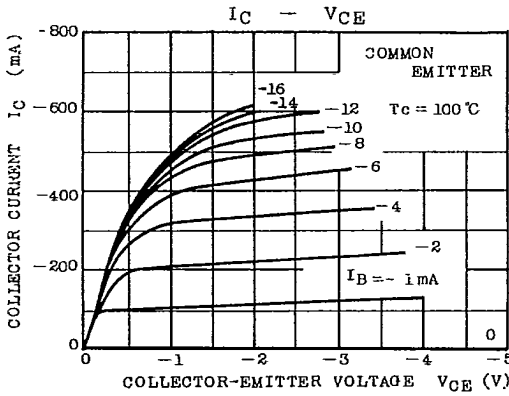
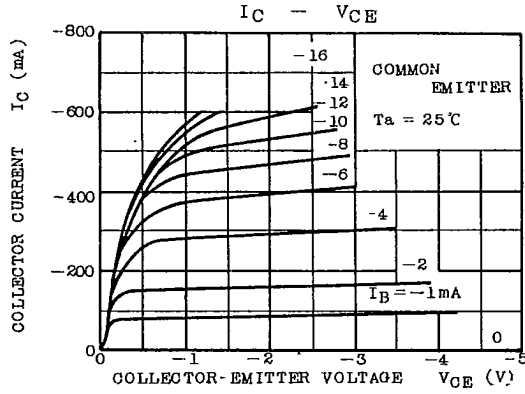
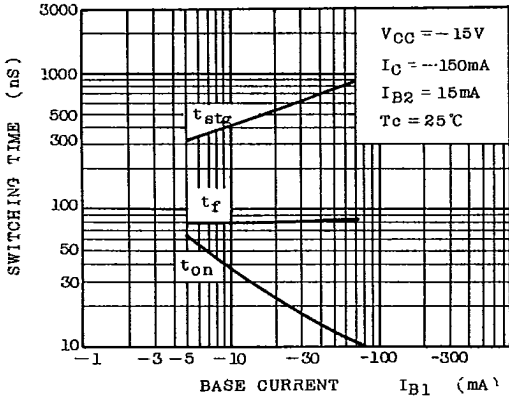
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	2SA503	I_{CBO}	$V_{CB}=-80\text{V}$, $I_E=0$	-	-	-0.5	μA
	2SA504		$V_{CB}=-60\text{V}$, $I_E=0$				
Emitter Cut-off Current		I_{EBO}	$V_{EB}=-5\text{V}$, $I_C=0$	-	-	-1.0	μA
DC Current Gain		h_{FE} (N_{CE})	$V_{CE}=-2\text{V}$, $I_C=-150\text{mA}$	30	-	300	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=-150\text{mA}$, $I_B=-15\text{mA}$	-	-0.12	-0.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=-150\text{mA}$, $I_B=-15\text{mA}$	-	-0.8	-1.5	V
Transition Frequency		f_T	$V_{CE}=-2\text{V}$, $I_C=-150\text{mA}$	50	80	-	MHz
Collector Output Capacitance		C_{ob}	$V_{CB}=-10\text{V}$, $I_E=0$, $f=1\text{MHz}$	-	22	30	pF
Base Intrinsic Resistance		$r_{bb'}$	$V_{CE}=-10\text{V}$, $I_E=1\text{mA}$, $f=30\text{MHz}$	-	12	30	Ω
Switching Time	Turn-on Time	t_{on}		-	60	-	ns
	Storage Time	t_{stg}		-	450	-	
	Fall Time	t_f		-	80	-	

Note : h_{FE} Classification O : 30~90, Y : 50~150, GR : 100~300

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2SA503·2SA504

SWITCHING CHARACTERISTICS

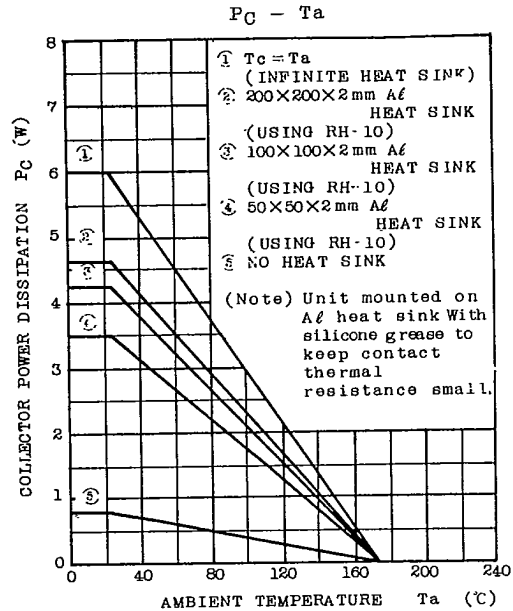
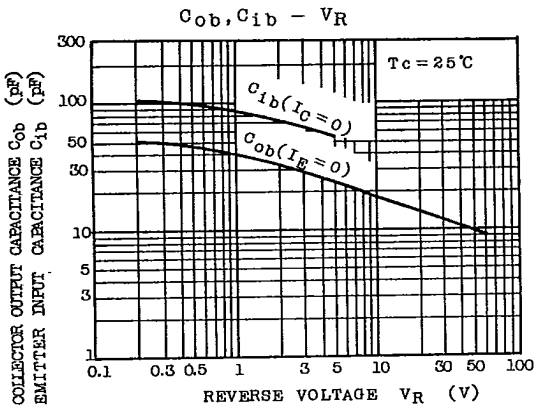
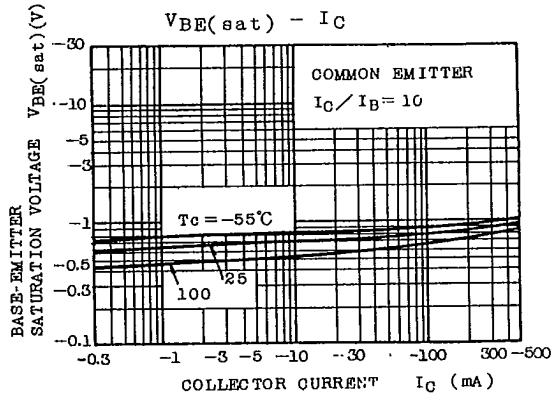
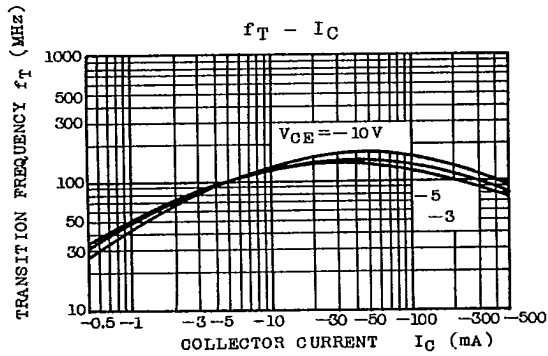


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