

# 2SA510

# 2SA512

SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07224 DT-37-15

INDUSTRIAL APPLICATIONS

Unit in mm

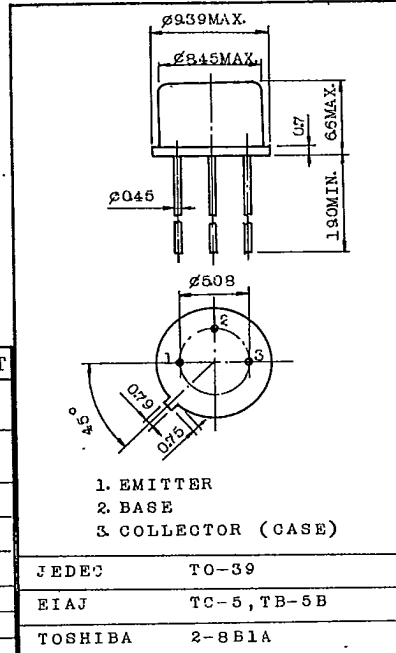
HIGH FREQUENCY AMPLIFIER APPLICATIONS.  
HIGH VOLTAGE SWITCHING APPLICATIONS.  
REGULATOR APPLICATIONS.

## FEATURES:

- High Breakdown Voltage :  $V_{CE0} = -100V$  (2SA510)  
:  $V_{CE0} = -60V$  (2SA512)
- Various Uses for Medium Power  
:  $I_C = -1.5A$  (Max.),  $P_C = 800mW$  (Max.)
- Complementary to 2SC510 and 2SC512.

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	2SA510	$V_{CB0}$	-120	V
	2SA512		-80	
Collector-Emitter Voltage	2SA510	$V_{CE0}$	-100	V
	2SA512		-60	
Emitter-Base Voltage		$V_{EB0}$	-5	V
Collector Current		$I_C$	-1.5	A
Base Current		$I_B$	-300	mA
Collector Power Dissipation	Ta=25°C	$P_C$	800	mW
	Tc=25°C		8	
Junction Temperature		$T_j$	175	°C
Storage Temperature Range		$T_{stg}$	-65~175	°C



Weight : 1.13g

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CB0}$	$V_{CB} = -30V, I_E = 0$	-	-	-1.0	$\mu A$
Emitter Cut-off Current	$I_{EB0}$	$V_{EB} = -5V, I_C = 0$	-	-	-5.0	$\mu A$
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE} = -2V, I_C = -200mA$	30	-	150	
	$h_{FE(2)}$	$V_{CE} = -5V, I_C = -1A$	15	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -200mA, I_B = -20mA$	-	-0.3	-0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -200mA, I_B = -20mA$	-	-0.85	-1.0	V
Transition Frequency	$f_T$	$V_{CE} = -10V, I_C = -30mA$	20	60	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	43	50	pF
Switching Time	Turn-on Time	$t_{on}$	-	0.12	-	$\mu s$
	Storage Time	$t_{stg}$	-	2.0	-	
	Fall Time	$t_f$	-	0.2	-	

Note :  $h_{FE(1)}$  Classification R : 30~90, 0 : 50~150

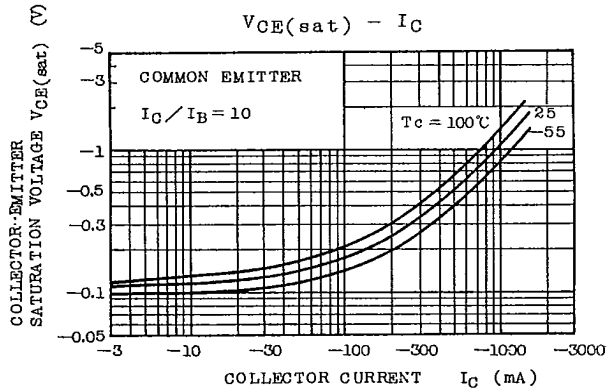
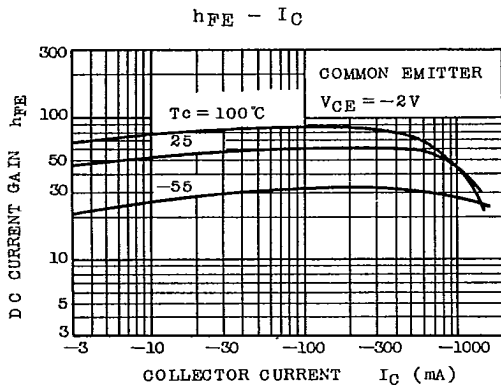
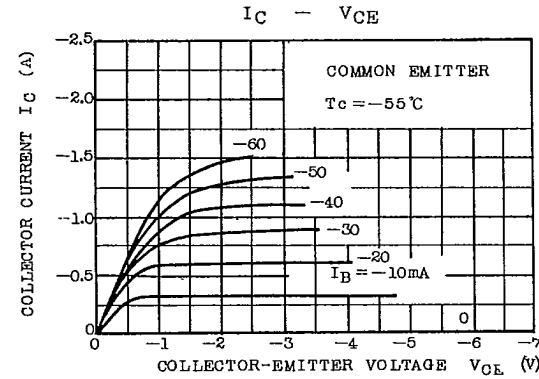
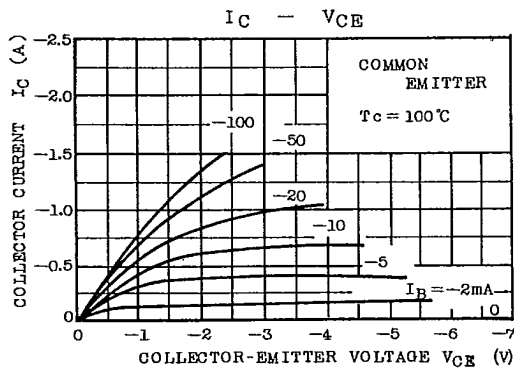
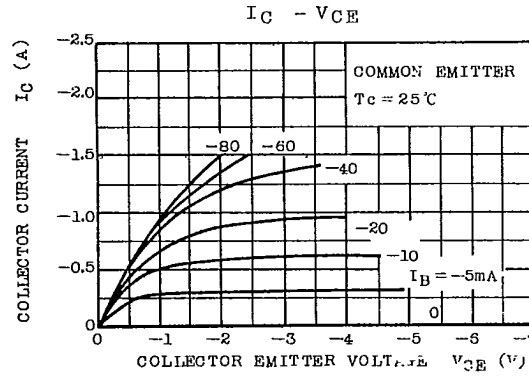
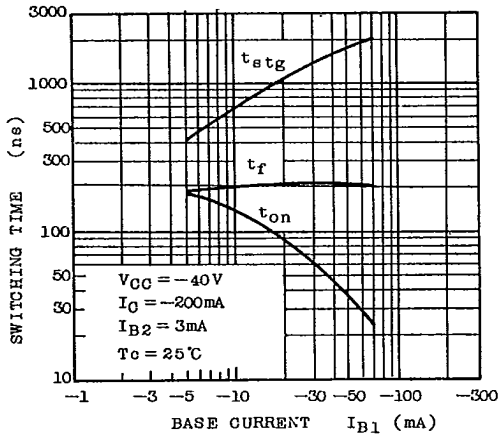
TOSHIBA CORPORATION

9097250 TOSHIBA (DISCRETE/OPTO)

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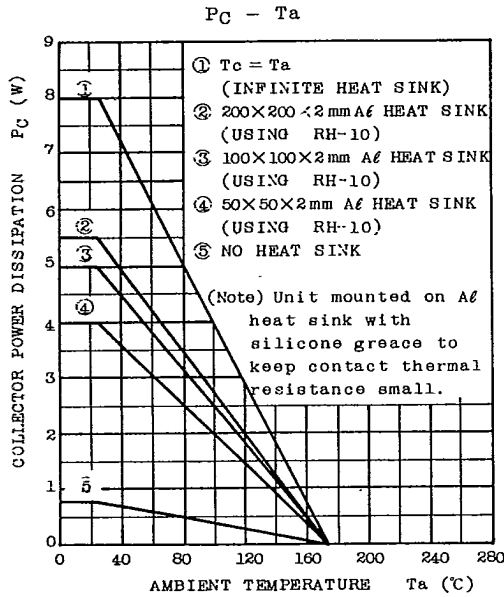
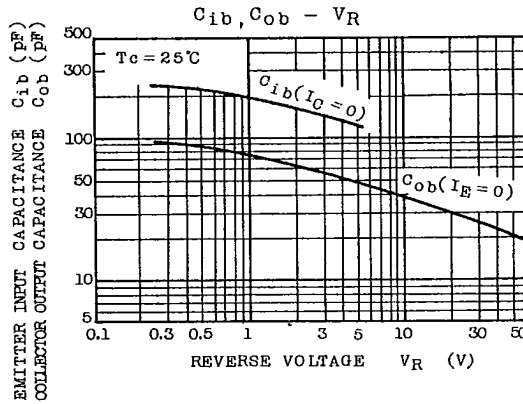
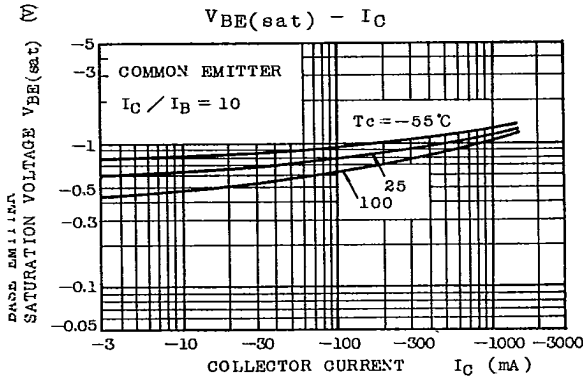
**2SA510•2SA512**

SWITCHING CHARACTERISTICS



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# 2SA510•2SA512



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Datasheets for electronic components.