

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1953

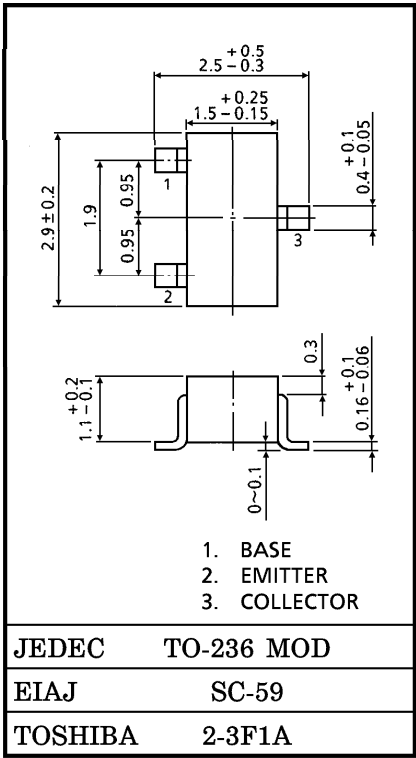
Unit in mm

GENERAL PURPOSE AMPLIFIER APPLICATIONS
SWITCHING AND MUTING SWITCH APPLICATION

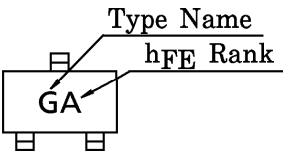
- Low Saturation Voltage : $V_{CE(sat)}(1) = -15mV(Typ.)$
@ $I_C = -10mA / I_B = -0.5mA$
- Large Collector Current : $I_C = -500mA(Max.)$

MAXIMUM RATINGS (Ta = 25°C)

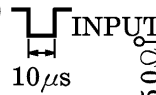
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-15	V
Collector-Emitter Voltage	V_{CEO}	-12	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-500	mA
Base Current	I_B	-50	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	-55~125	°C



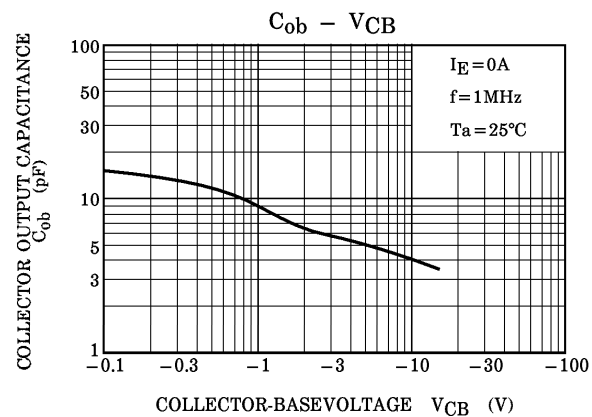
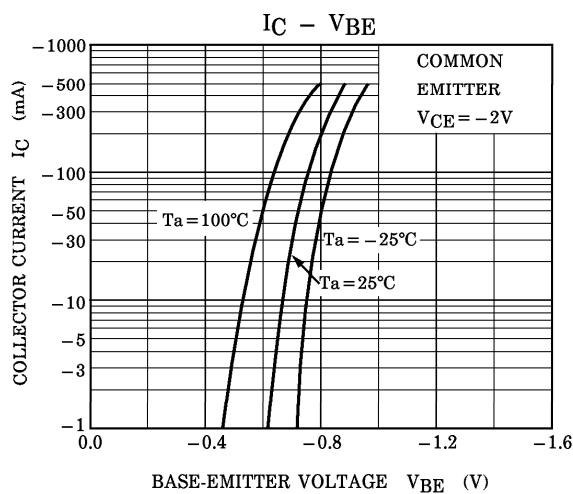
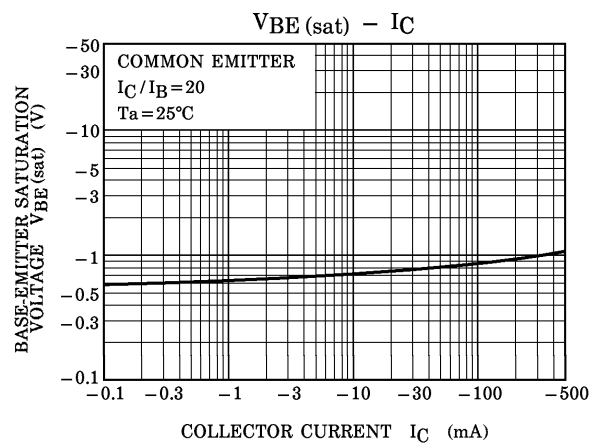
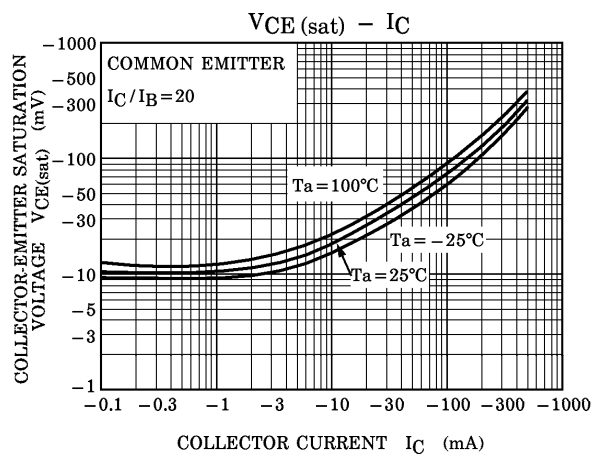
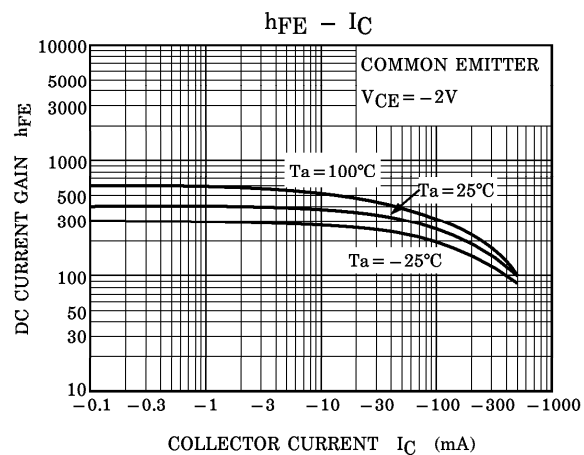
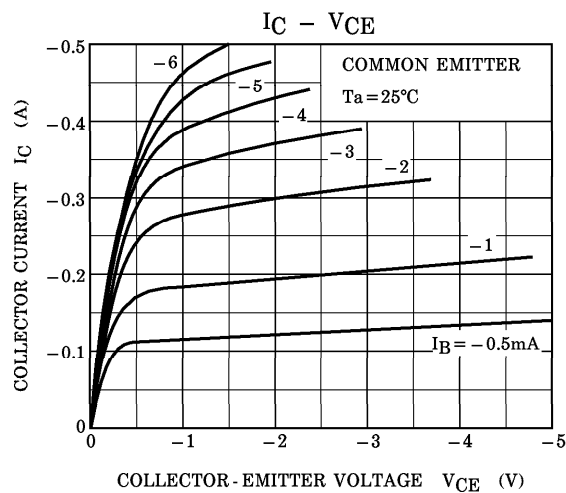
MARKING

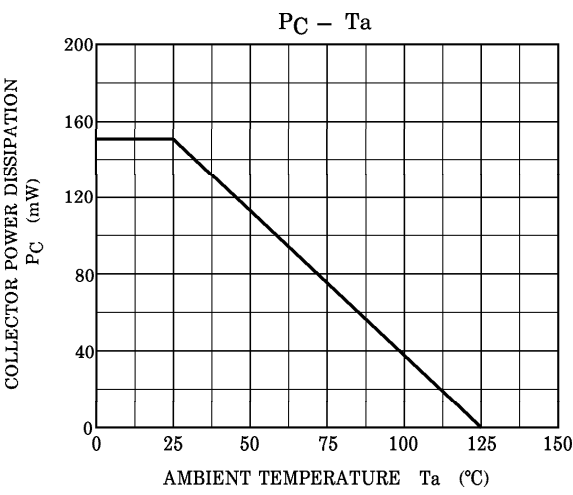


ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I _{CBO}	V _{CB} = −15V, I _E = 0	—	—	−0.1	μA
Emitter Cut-off Current		I _{EBO}	V _{EB} = −5V, I _C = 0	—	—	−0.1	μA
DC Current Gain		h _{FE} (Note)	V _{CE} = −2V, I _C = −10mA	300	—	1000	
Collector-Emitter Saturation Voltage		V _{CE (sat)} (1)	I _C = −10mA, I _B = −0.5mA	—	−15	−30	mV
		V _{CE (sat)} (2)	I _C = −200mA, I _B = −10mA	—	−110	−250	
Base-Emitter Saturation Voltage		V _{BE (sat)}	I _C = −200mA, I _B = −10mA	—	−0.87	−1.2	V
Transition Frequency		f _T	V _{CE} = −2V, I _C = −10mA	80	130	—	MHz
Collector Output Capacitance		C _{ob}	V _{CB} = −10V, I _E = 0, f = 1MHz	—	4.2	—	pF
Collector-Emitter On Resistance		R _{on}	I _B = −1mA, V _{in} = −1V _{rms} , f = 1kHz	—	0.9	—	Ω
Switching Time	Turn-on Time	t _{on}	0  INPUT 300Ω 50Ω 10μs 600Ω 60Ω V_{BB} V_{CC} = 3V = −6V	—	40	—	ns
	Storage Time	t _{stg}		—	280	—	
	Fall Time	t _f		I _{B1} = −I _{B2} = −5mA	—	45	

(Note) h_{FE} Classification A : 300~600, B : 500~1000





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