

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1163

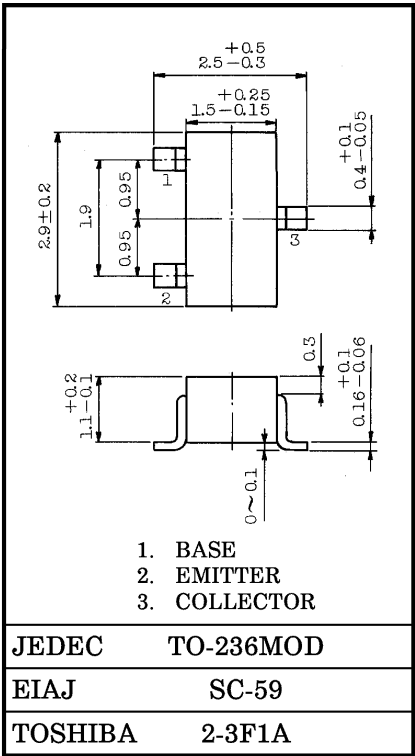
AUDIO FREQUENCY GENERAL PURPOSE AMPLIFIER APPLICATIONS.

Unit in mm

- High Voltage : $V_{CEO} = -120V$
- Excellent h_{FE} Linearity
: $h_{FE}(I_C = -0.1mA) / h_{FE}(I_C = -2mA) = 0.95$ (Typ.)
- High h_{FE} : $h_{FE} = 200 \sim 700$
- Low Noise : $NF = 1dB$ (Typ.), $10dB$ (Max.)
- Complementary to 2SC2713
- Small Package

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-120	V
Collector-Emitter Voltage	V_{CEO}	-120	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA
Base Current	I_B	-20	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	125	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55~125	$^{\circ}C$

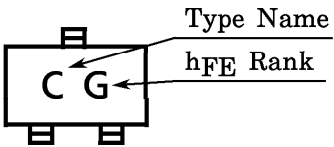


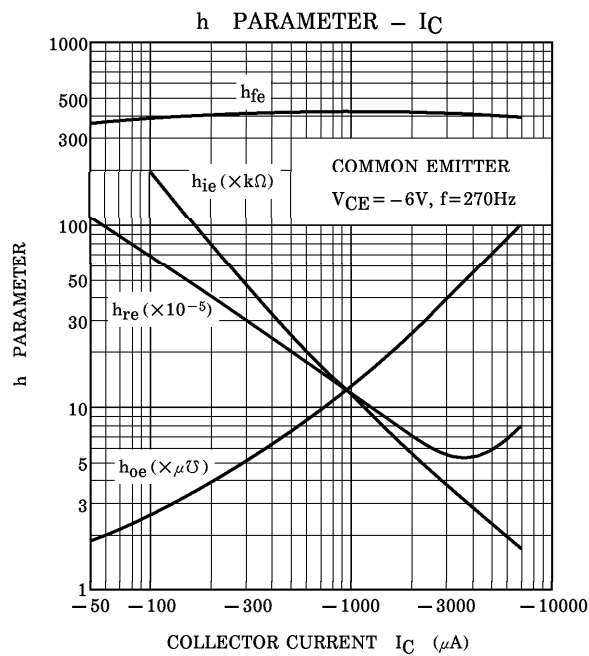
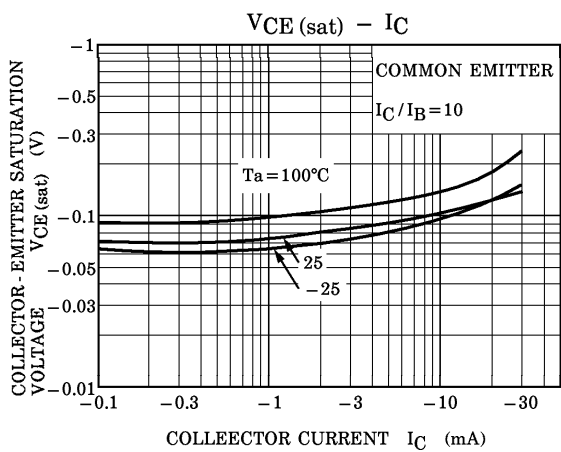
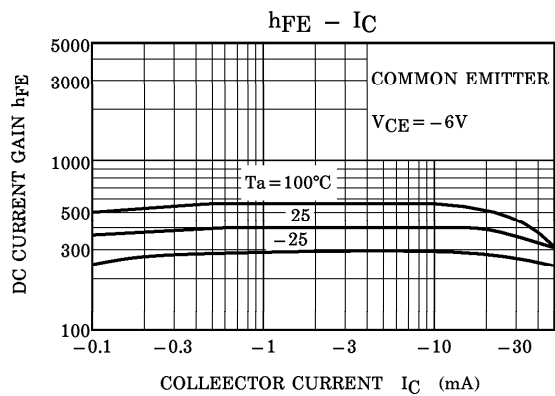
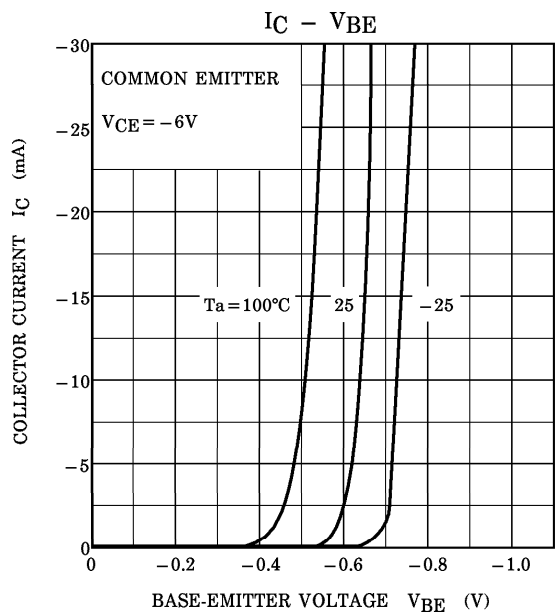
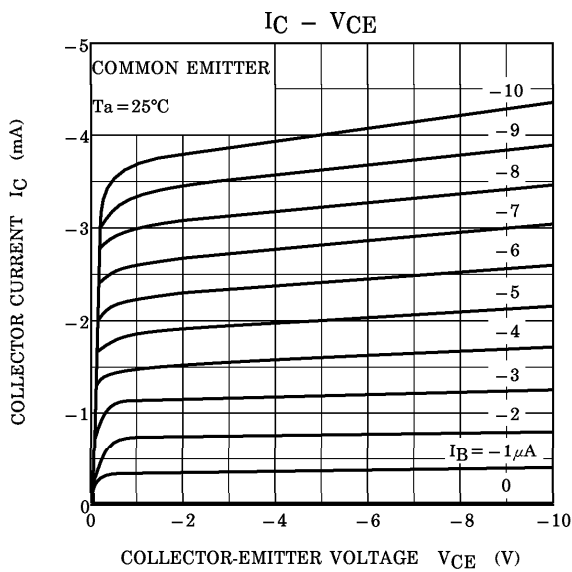
ELECTRICAL CHARACTERISTICS ($T_a = 25^{\circ}C$)

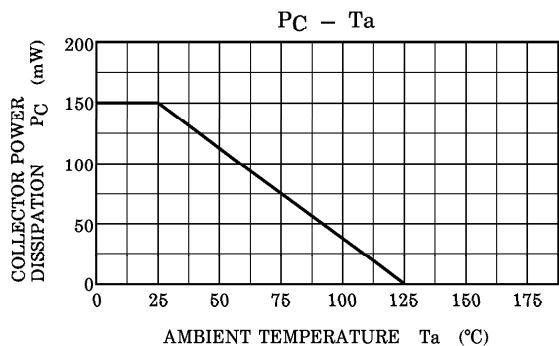
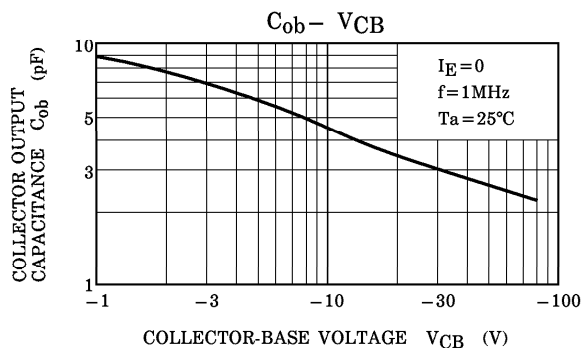
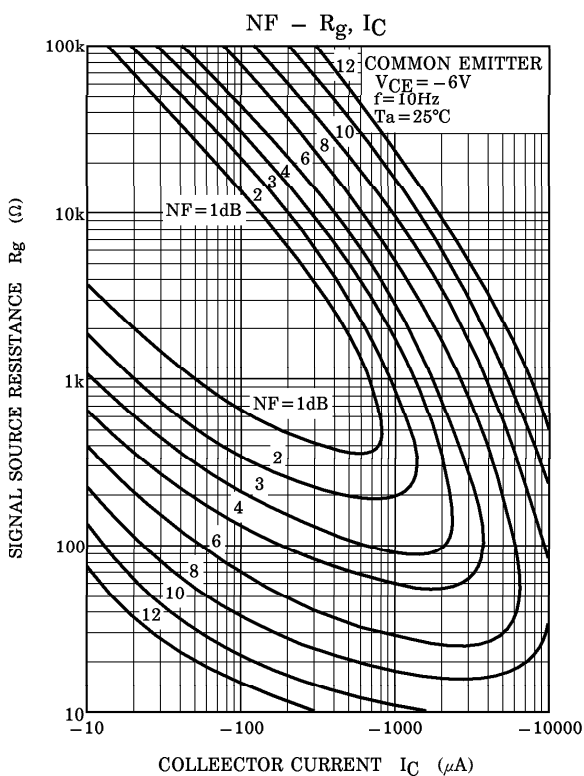
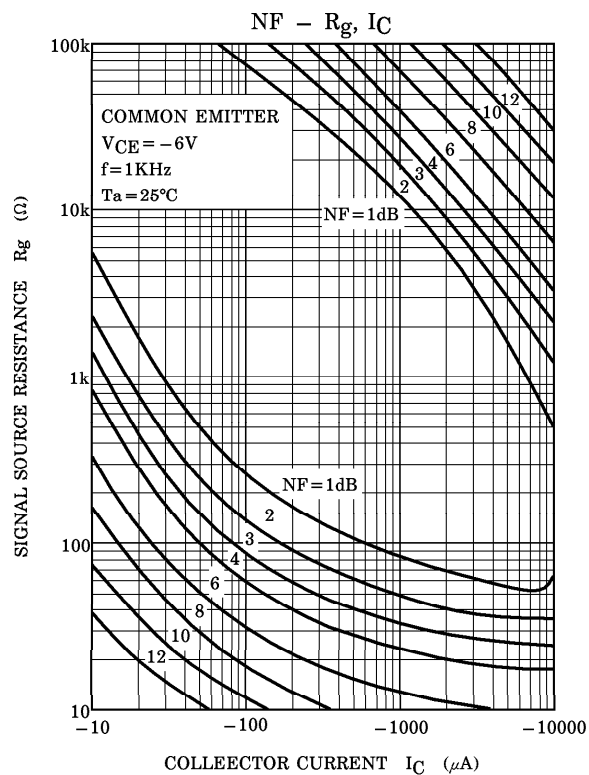
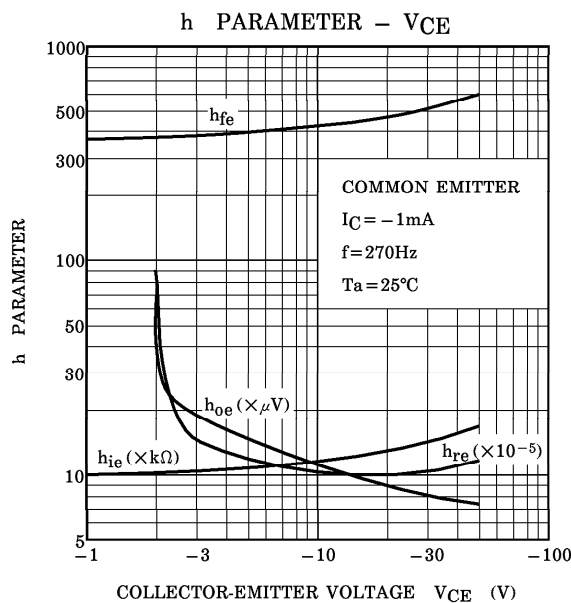
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = -120V, I_E = 0$	—	—	-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5V, I_C = 0$	—	—	-0.1	μA
DC Current Gain	h_{FE} (Note)	$V_{CE} = -6V, I_C = -2mA$	200	—	700	
Collector-Emitter Saturation Voltage	$V_{CE}(sat)$	$I_C = -10mA, I_B = -1mA$	—	—	-0.3	V
Transition Frequency	f_T	$V_{CE} = -6V, I_C = -1mA$	—	100	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	4	—	pF
Noise Figure	NF	$V_{CE} = -6V, I_C = 0.1mA, f = 1kHz, R_g = 10k\Omega$	—	1.0	10	dB

Note : h_{FE} Classification GR (G) : 200~400 BL (L) : 350~700
() Marking Symbol

MARKING







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