SEMICONDUCTOR

TOSHIBA

TECHNICAL DATA

TOSHIBA TRANSISTOR

2SC732TM

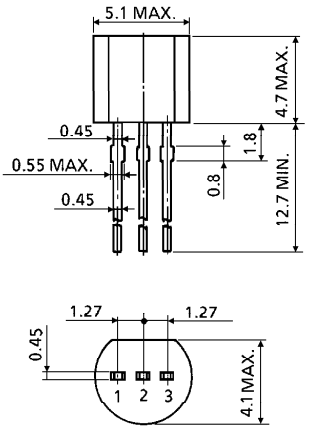
SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

(2SC732TM)

LOW NOISE AUDIO AMPLIFIER APPLICATIONS

Unit in mm

- High Breakdomn Voltage : $V_{CEO}=50V$
- Excellent h_{FE} Linearity
  : $h_{FE}\,(I_C=0.1mA)\,/\,h_{FE}\,(I_C=2mA)=0.95$ (Typ.)
- Low Noise : NF (1) = 0.5dB (Typ.) (f = 100Hz)
  : NF (2) = 0.2dB (Typ.) (f = 1kHz)



1. EMITTER
2. COLLECTOR
3. BASE

JEDEC	TO-92
EIAJ	SC-43
TOSHIBA	2-5F1B

Weight : 0.21g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA
Base Current	I_B	30	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	−55~125	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=60V$, $I_E=0$	—	—	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 Breakdown Voltage	$V_{CE\,(sat)}$	$I_C=10mA$, $I_B=1mA$	—	—	0.3	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=6V$, $I_C=2mA$	—	0.65	—	V
Transition Frequency	f_T	$V_{CE}=6V$, $I_C=1mA$	—	150	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $I_E=0$, f = 1MHz	—	2.0	—	pF
Noise Figure	NF (1)	$V_{CE}=6V$, $I_C=0.1mA$, f = 1kHz, $R_G=10k\Omega$	—	0.5	6	V
Noise Figure	NF (2)	$V_{CE}=6V$, $I_C=0.1mA$, f = 1kHz, $R_G=10k\Omega$	—	0.2	3	V

Note : h_{FE} Classification GR : 200~400, BL : 350~600

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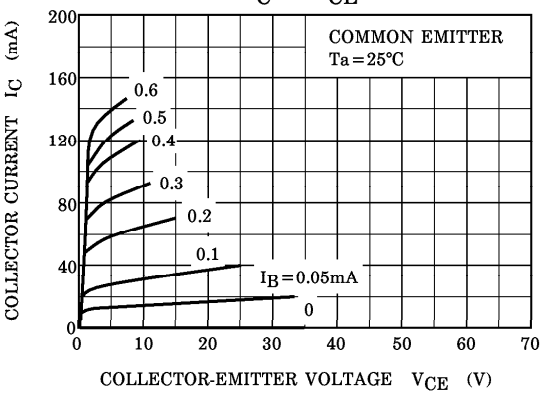
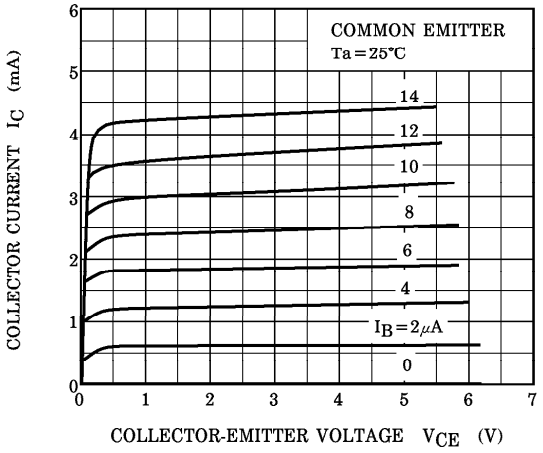
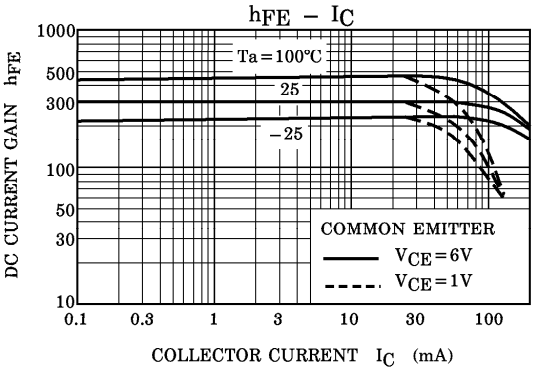
I_C – V_{CE}



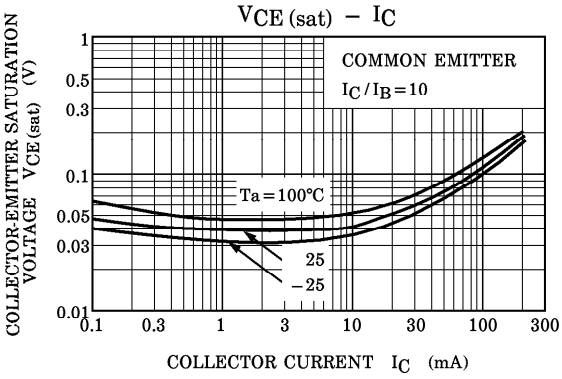
I_C – V_{CE}



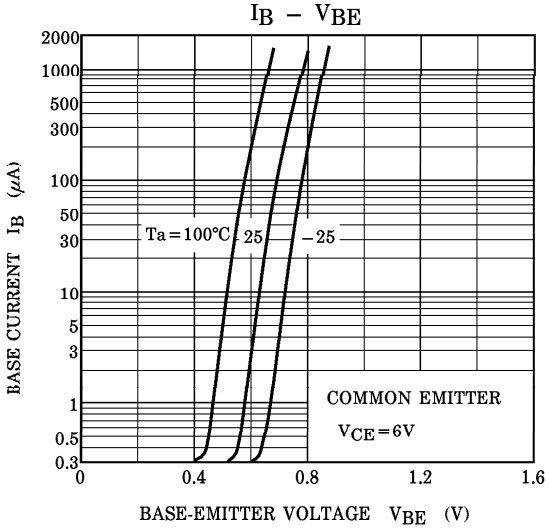
h_{FE} – I_C



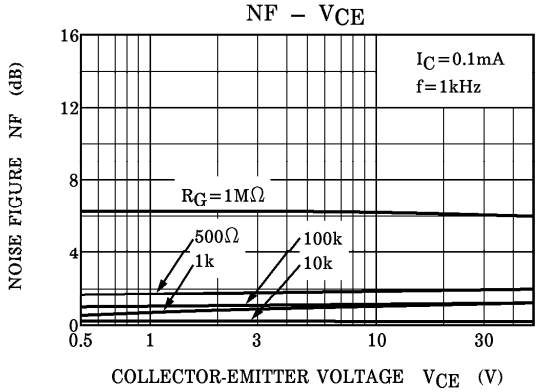
$V_{CE\,(sat)}$ – I_C



I_B – V_{BE}



NF – V_{CE}



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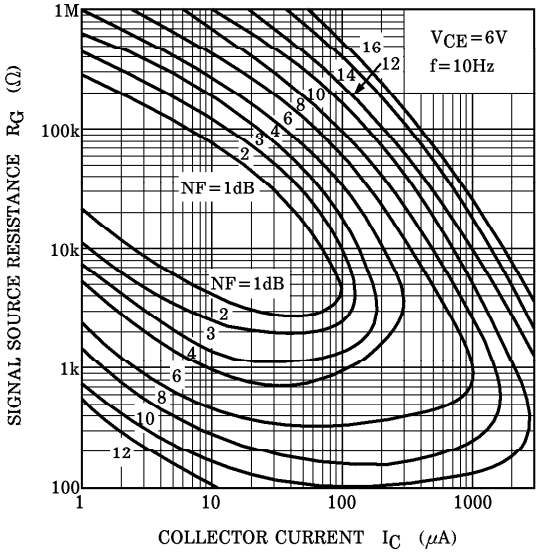
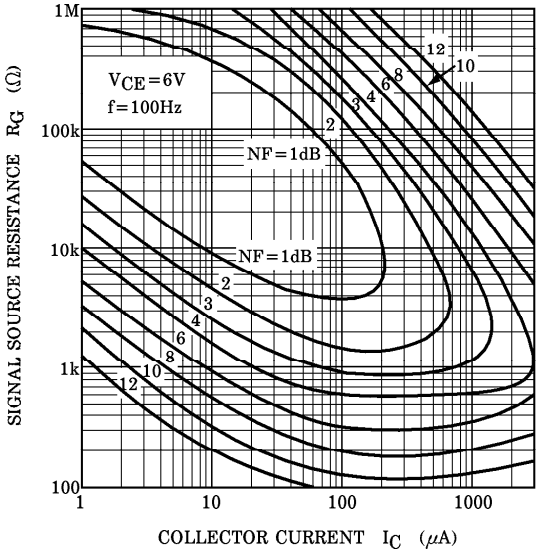
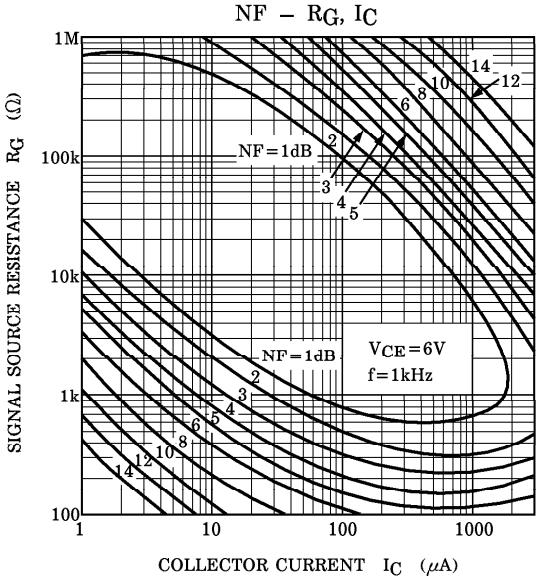
NF – R_G, I_C



NF – R_G, I_C



NF – R_G, I_C



P_C – Ta