

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (MONOLITHIC DUAL TYPE)

2SA1349

LOW NOISE AUDIO AMPLIFIER APPLICATIONS

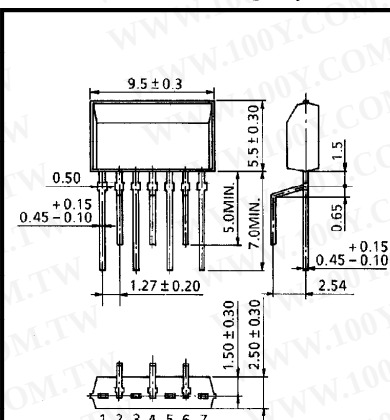
RECOMMENDED FOR CASCADE, CURRENT MIRROR CIRCUIT
 APPLICATIONS OF THE FIRST STAGES OF PRE, MAIN AMPLIFIERS

- 1 Chip Dual Type.
- Good Pair Characteristics.
- Low Noise : $NF=3dB$ (Max.), $R_g=10k\Omega$, $V_{CE}=-6V$, $I_C=-0.1mA$, $f=1kHz$
- High Breakdown Voltage : $V_{CEO}=-80V$ (Min.)
- Complementary to 2SC3381.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-80	V
Collector-Emitter Voltage	V_{CEO}	-80	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	200×2	mW
Junction Temperature	T_j	125	$^\circ C$
Storage Temperature Range	T_{stg}	-55~125	$^\circ C$

Unit in mm



1. BASE 1
2. COLLECTOR 1
3. EMITTER 1
4. SUBSTRATE (Note 2)
5. EMITTER 2
6. COLLECTOR 2
7. BASE 2

JEDEC	—
EIAJ	—
TOSHIBA	2-10M1B
Weight	0.37g

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

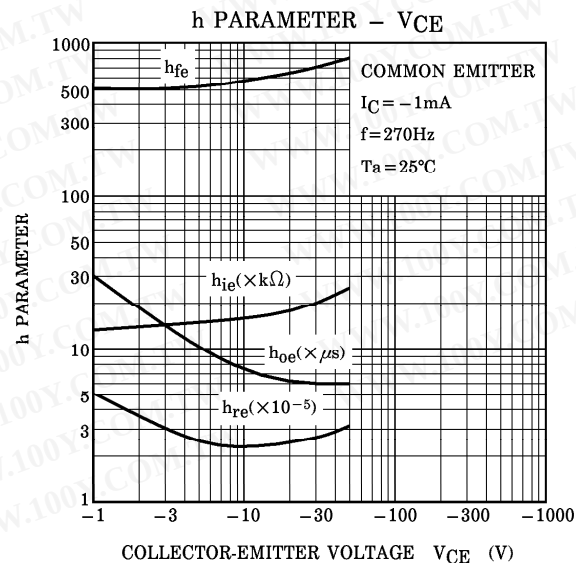
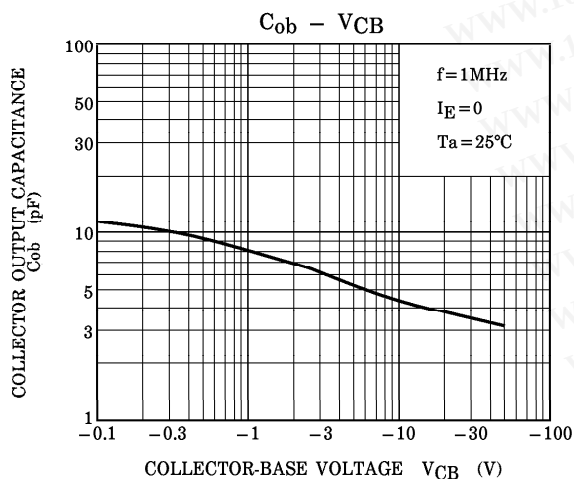
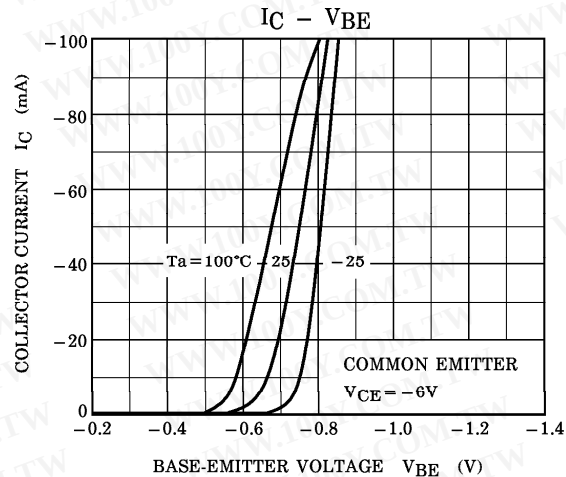
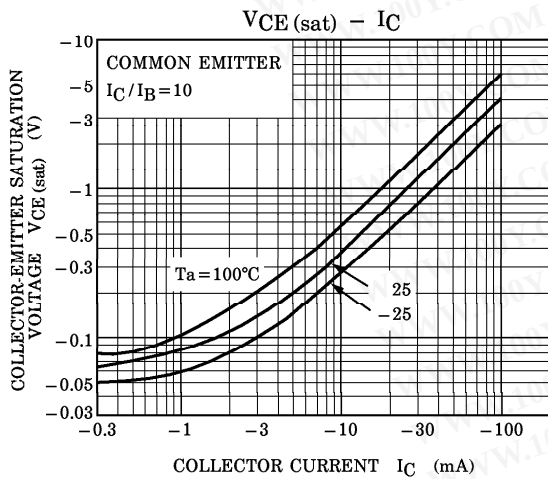
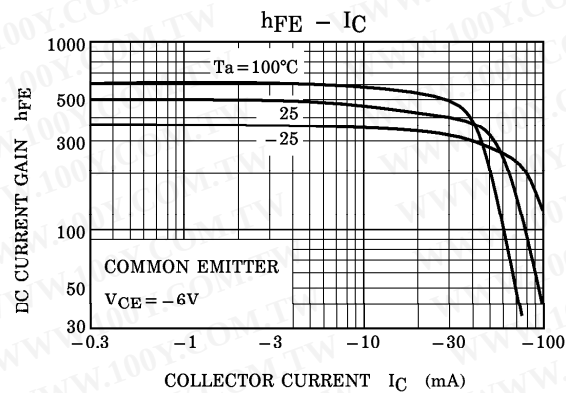
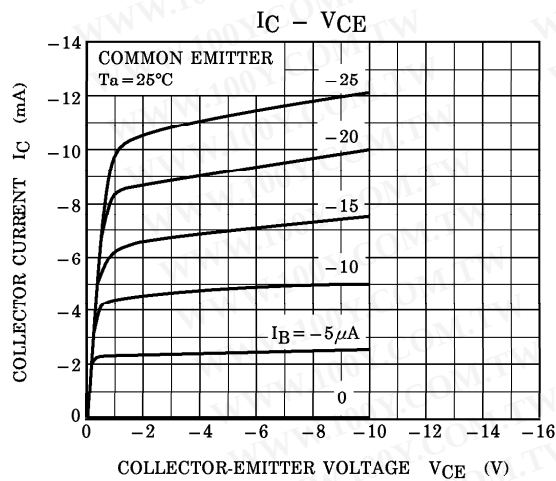
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=-80V$, $I_E=0$	—	—	-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=-5V$, $I_C=0$	—	—	-0.1	μA
DC Current Gain	h_{FE} (Note 1)	$V_{CE}=-6V$, $I_C=-2mA$	200	—	700	
DC Current Gain Ratio	$h_{FE}(S)/h_{FE}(L)$	$V_{CE}=-6V$, $I_C=-2mA$	0.9	—	1.0	
Collector-Emitter Saturation Voltage	$V_{CE}(sat)$	$I_C=-5mA$, $I_B=-0.5mA$	—	—	-0.3	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=-6V$, $I_C=-2mA$	—	-0.6	—	V
Differential Base-Emitter Voltage	$ V_{BE1}-V_{BE2} $	$V_{CE}=-6V$, $I_C=-2mA$	0	—	10	mV
Collector Output Capacitance	C_{ob}	$V_{CB}=-10V$, $I_E=0$, $f=1MHz$	—	4.2	—	pF
Noise Figure	NF	$V_{CE}=-6V$, $I_C=-0.1mA$, $R_g=10k\Omega$, $f=1kHz$	0	—	3	dB

Note 1 : h_{FE} Classification GR : 200~400, BL : 350~700

2 : Use the substrate lead with open.

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