

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (MONOLITHIC DUAL TYPE)

2SC3381

LOW NOISE AUDIO AMPLIFIER APPLICATIONS

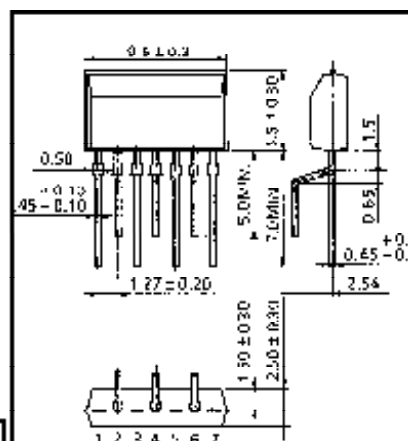
RECOMMENDED FOR CASCODE, CURRENT MIRROR CIRCUIT
APPLICATIONS OF THE FIRST STAGES OF PRE, MAIN AMPLIFIERS

- 1 Chip Dual Type.
- Good Pair Characteristics.
- Low Noise : $NF=3dB$ (Max.), ($V_{CE}=6V$, $I_C=0.1mA$,
 $R_G=10k\Omega$, $f=1kHz$)
- High Breakdown Voltage : $V_{CEO}=80V$ (Min.)
- Complementary to 2SA1349.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EB0}	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}	$-55 \sim 125$	$^\circ C$

Unit in mm



1. BASE 1
 2. COLLECTOR 1
 3. EMITTER 1
 4. SUBSTRATE
 5. EMITTER 2
 6. COLLECTOR 2
 7. BASE 2
- (Use the substrate lead with open)

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_{EB0}	$V_{EB}=5V$, $I_C=0$	—	—	0.1	μA
DC Current Gain	h_{FE} (Note)	$V_{CE}=6V$, $I_C=2mA$	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	$V_{CE(sat)}$	$I_C=10mA$, $I_B=1mA$	—	0.07	0.3	V
Base-Emitter Voltage	V_{BE}	$V_{CE}=6V$, $I_C=2mA$	—	0.63	—	V
Differential Base-Emitter Voltage	$ V_{BE1}-V_{BE2} $	$V_{CE}=6V$, $I_C=2mA$	0	—	10	mV
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $I_E=0$, $f=1MHz$	—	3.6	—	pF
Noise Figure	NF	$V_{CE}=6V$, $I_C=0.1mA$, $R_G=10k\Omega$, $f=1kHz$	0	—	3	dB

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

96100-2432

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