

TOSHIBA TRANSISTOR SILOCON NPN EPITAXIAL TYPE (PCT PROCESS)

**2SC2458(L)**

AUDIO AMPLIFIER APPLICATIONS

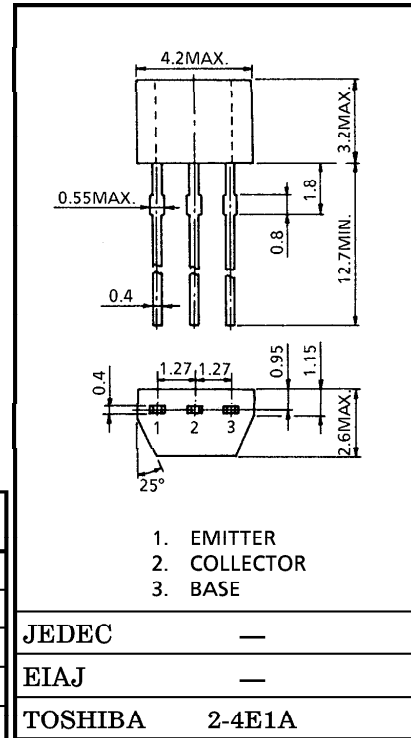
LOW NOISE AUDIO AMPLIFIER APPLICATIONS

- High Current Capability :  $I_C = 150\text{mA}$  (Max.)
- High DC Current Gain :  $h_{FE} = 70 \sim 700$
- Excellent  $h_{FE}$  Linearity  
:  $h_{FE}(I_C = 0.1\text{mA}) / h_{FE}(I_C = 2\text{mA}) = 0.95$  (Typ.)
- Low Noise :  $NF(2) = 0.2\text{dB}$  (Typ.),  $3\text{dB}$  (Max.)
- Complementary to 2SA1048(L).
- Small Package.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	50	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	150	mA
Base Current	$I_B$	50	mA
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_j$	125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	$-55 \sim 125$	$^\circ\text{C}$

Unit in mm



Weight : 0.13g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 50\text{V}, I_E = 0$	—	—	0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$	—	—	0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$ (Note)	$V_{CE} = 6\text{V}, I_C = 2\text{mA}$	70	—	700	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$	—	0.1	0.25	V
Transition Frequency	$f_T$	$V_{CE} = 10\text{V}, I_C = 1\text{mA}$	80	—	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	—	2.0	3.5	pF
Noise Figure	NF (1)	$V_{CE} = 6\text{V}, I_C = 0.1\text{mA}, f = 100\text{Hz}, R_G = 10\text{k}\Omega$	—	0.5	6	dB
	NF (2)	$V_{CE} = 6\text{V}, I_C = 0.1\text{mA}, f = 1\text{kHz}, R_G = 10\text{k}\Omega$	—	0.2	3	

Note :  $h_{FE}$  Classification O : 70~140, Y : 120~240, GR : 200~400, BL : 350~700

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