

**TOSHIBA**

**2SC3113**

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

# 2SC3113

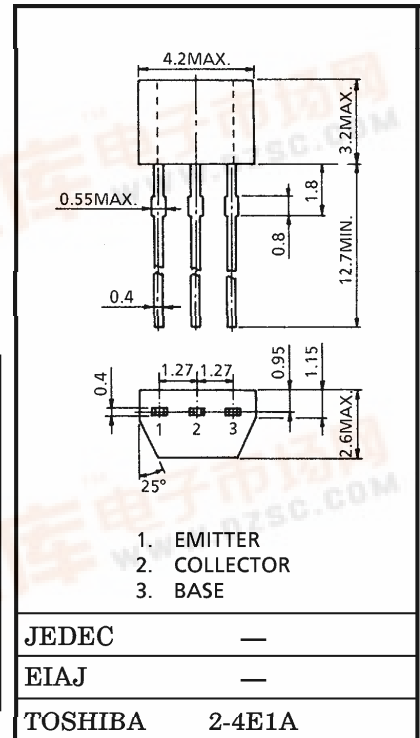
FOR AUDIO AMPLIFIER AND SWITCHING APPLICATIONS

Unit in mm

- High DC Current Gain :  $h_{FE} = 600 \sim 3600$
- High Breakdown Voltage :  $V_{CEO} = 50V$
- High Collector Current :  $I_C = 150mA$  (Max.)
- Small Package

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

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	$I_B$	30	mA
Collector Power Dissipation	$P_C$	200	mW
Junction Temperature	$T_j$	125	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~125	$^\circ C$



Weight : 0.13g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 50V, I_E = 0$	—	—	0.1	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 5V, I_C = 0$	—	—	0.1	$\mu A$
DC Current Gain	$h_{FE}$ (Note)	$V_{CE} = 6V, I_C = 2mA$	600	—	3600	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 10mA$	—	0.12	0.25	V
Transition Frequency	$f_T$	$V_{CE} = 10V, I_C = 10mA$	100	250	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	3.5	—	pF
Noise Figure	NF (1)	$V_{CE} = 6V, I_C = 0.1mA, f = 100Hz, R_G = 10k\Omega$	—	0.5	—	dB
	NF (2)	$V_{CE} = 6V, I_C = 0.1mA, f = 1kHz, R_G = 10k\Omega$	—	0.3	—	dB

(Note) :  $h_{FE}$  Classification A : 600~1800, B : 1200~3600

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