

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

# 2SC3121

TV TUNER, UHF OSCILLATOR APPLICATIONS (COMMON BASE)

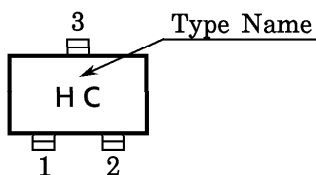
TV TUNER, UHF CONVERTER APPLICATIONS (COMMON BASE)

- High Transition Frequency :  $f_T=1500\text{MHz}$  (Typ.)
- Excellent Linearity

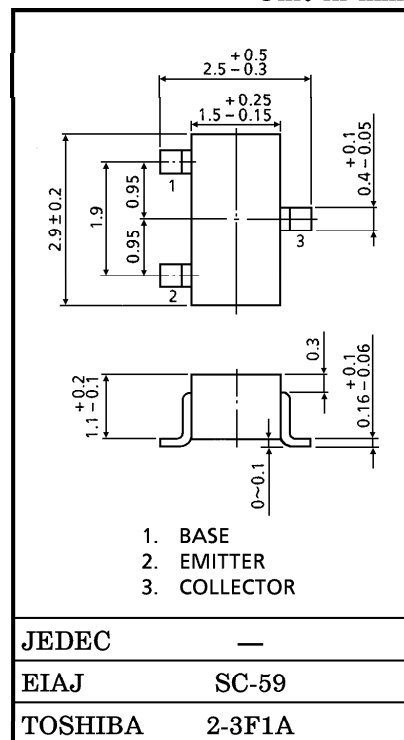
MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CB0}$	30	V
Collector-Emitter Voltage	$V_{CEO}$	15	V
Emitter-Base Voltage	$V_{EBO}$	3	V
Collector Current	$I_C$	25	mA
Base Current	$I_B$	50	mA
Collector Power Dissipation	$P_C$	150	mW
Junction Temperature	$T_j$	125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~125	$^\circ\text{C}$

Marking



Unit in mm



Weight : 0.012g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=15\text{V}, I_E=0$	—	—	0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=3\text{V}, I_C=0$	—	—	1.0	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V(BR)_{CEO}$	$I_C=1\text{mA}, I_B=0$	15	—	—	V
DC Current Gain	$h_{FE}$	$V_{CE}=3\text{V}, I_C=8\text{mA}$	60	150	320	
Transition Frequency	$f_T$	$V_{CE}=10\text{V}, I_C=8\text{mA}$	1100	1500	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0\text{mA}, f=1\text{MHz}$	—	0.9	1.3	pF
Collector-Base Time Constant	$C_{c,rbb'}$	$V_{CB}=10\text{V}, I_C=8\text{mA}, f=30\text{MHz}$	—	7	12	ps

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