TOSHIBA

Unit in mm

### TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

# 2 S C 2 3 4 7

TV UHF OSCILLATOR APPLICATIONS

TV VHF MIXER APPLICATIONS

### MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$v_{CBO}$	30	V
Collector-Emitter Voltage	$v_{CEO}$	15	V
Emitter-Base Voltage	$V_{ m EBO}$	3	V
Collector Current	$_{ m I_C}$	50	mA
Emitter Current	${f I_E}$	-50	mA
Collector Power Dissipation	PC	250	mW
Junction Temperature	$T_{j}$	125	°C
Storage Temperature Range	$\mathrm{T_{stg}}$	-55~125	$^{\circ}\mathrm{C}$

\_ 5.1 MAX 4.7 MAX 0.45 12.7 MIN. 2 3 1. EMITTER **COLLECTOR** BASE

**JEDEC** TO-92 EIAJ SC-43 **TOSHIBA** 2-5F1B

Weight: 0.21 g

## ELECTRICAL CHARACTERISTICS (Ta = 25°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	$\mu$ A
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 3 V, I_{C} = 0$	_		1.0	$\mu$ A
Collector-Emitter Breakdown Voltage	V (BR) CEO	$I_{\mathrm{C}} = 1 \mathrm{mA}, \; I_{\mathrm{B}} = 0$	15	_	_	V
DC Current Gain	$_{ m h_{FE}}$	$V_{CE} = 3 V$ , $I_{C} = 8 mA$	20		_	_
Transition Frequency	$ m f_T$	$V_{CE} = 10 \text{ V}, I_{C} = 8 \text{ mA}$	650	_	_	MHz
Collector Output Capacitance	C <sub>ob</sub>	$V_{CB} = 10 \text{ V}, I_{E} = 0,$ f = 1 MHz	_	1.2	1.5	рF
Collector-Base Time Constant	C <sub>c</sub> .r <sub>bb</sub> ,	$V_{CB} = 10 \text{ V}, I_{C} = 8 \text{ mA},$ f = 30  MHz	_	_	12	ps

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