

## TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

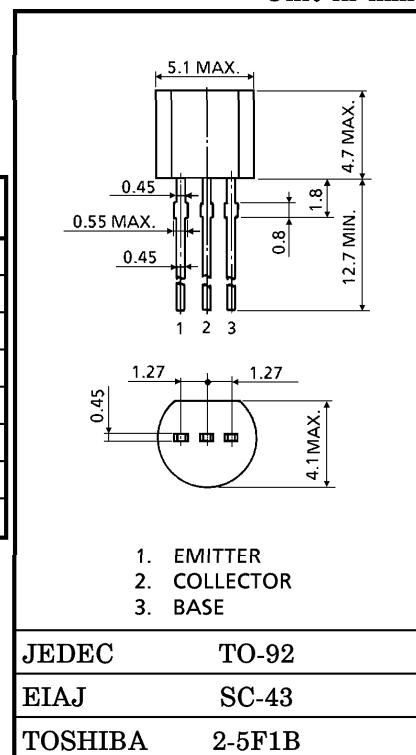
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## TV UHF OSCILLATOR APPLICATIONS

## 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	$V_{EBO}$	3	V
Collector Current	$I_C$	50	mA
Emitter Current	$I_E$	-50	mA
Collector Power Dissipation	$P_C$	250	mW
Junction Temperature	$T_j$	125	°C
Storage Temperature Range	$T_{stg}$	-55~125	°C



Weight : 0.21 g

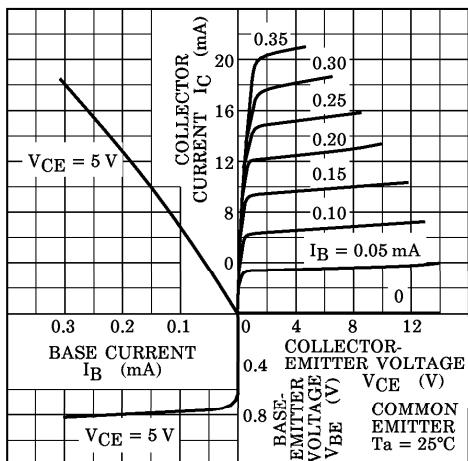
## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 15 \text{ V}$ , $I_E = 0$	—	—	0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 3 \text{ V}$ , $I_C = 0$	—	—	1.0	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)}\text{CEO}$	$I_C = 1 \text{ mA}$ , $I_B = 0$	15	—	—	V
DC Current Gain	$h_{FE}$	$V_{CE} = 3 \text{ V}$ , $I_C = 8 \text{ mA}$	20	—	—	—
Transition Frequency	$f_T$	$V_{CE} = 10 \text{ V}$ , $I_C = 8 \text{ mA}$	650	—	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$	—	1.2	1.5	pF
Collector-Base Time Constant	$C_{c.rbb'}$	$V_{CB} = 10 \text{ V}$ , $I_C = 8 \text{ mA}$ , $f = 30 \text{ MHz}$	—	—	12	ps

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## STATIC CHARACTERISTICS

 $h_{FE} - I_C$ 