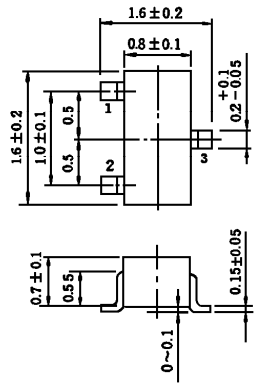
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC5464

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS

Unit in mm

- Low Noise Figure, High Gain.
- NF = 1.1dB, $|S_{21e}|^2$ = 12dB (f = 1GHz)



1. BASE
2. EMITTER
3. COLLECTOR

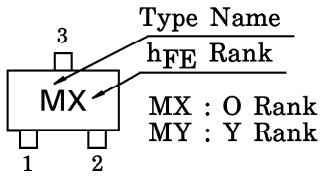
SSM	
JEDEC	—
EIAJ	—
TOSHIBA	2-2H1A

Weight : 2.4mg

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	12	V
Emitter-Base Voltage	V_{EBO}	3	V
Collector Current	I_C	60	mA
Base Current	I_B	30	mA
Collector Power Dissipation	P_C	100	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	−55~125	°C

MARKING



MICROWAVE CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Transition Frequency	f_T	V_{CE} = 8V, I_C = 15mA	5	7	—	GHz
Insertion Gain	$\|S_{21e}\|^2$ (1)	V_{CE} = 8V, I_C = 15mA, f = 500MHz	—	17.5	—	dB
	$\|S_{21e}\|^2$ (2)	V_{CE} = 8V, I_C = 15mA, f = 1GHz	8	12	—	
Noise Figure	NF (1)	V_{CE} = 8V, I_C = 5mA, f = 500MHz	—	1	—	dB
	NF (2)	V_{CE} = 8V, I_C = 5mA, f = 1GHz	—	1.1	2	

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=10V$, $I_E=0$	—	—	1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=1V$, $I_C=0$	—	—	1	μA
DC Current Gain	h_{FE} (Note 1)	$V_{CE}=8V$, $I_C=15mA$	80	—	240	—
Output Capacitance	C_{ob}	$V_{CB}=8V$, $I_E=0$, f=1MHz (Note 2)	—	0.8	—	pF
Reverse Transfer Capacitance	C_{re}		—	0.55	—	pF

(Note 1) : h_{FE} Classification O : 80~160, Y : 160~240
(Note 2) : C_{re} is measured by 3 terminal method with capacitance bridge.