

TOSHIBA

2SC5318

TENTATIVE TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

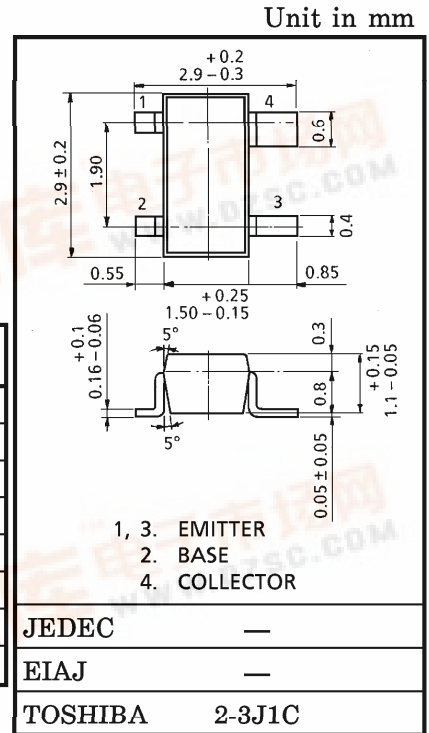
2SC5318

VHF~UHF BAND LOW NOISE AMPLIFIER APPLICATIONS
(CHIP : $f_T = 16$ GHz series)

- Low Noise Figure : NF = 1.3 dB (f = 2 GHz)
- High Gain : Ga = 11.5 dB (f = 2 GHz)

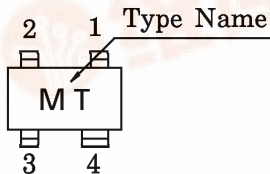
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	8	V
Collector-Emitter Voltage	V _{CEO}	5	V
Emitter-Base Voltage	V _{EB0}	1.5	V
Collector Current	I _C	20	mA
Base Current	I _B	10	mA
Collector Power Dissipation	P _C	150	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C



Weight : 0.012 g

MARKING



MICROWAVE CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Transition Frequency	f_T	V _{CE} = 3 V, I _C = 15 mA	13	16	—	GHz
Insertion Gain	$ S_{21e} ^2$ (1)	V _{CE} = 3 V, I _C = 15 mA, f = 1 GHz	14.5	17	—	dB
	$ S_{21e} ^2$ (2)	V _{CE} = 3 V, I _C = 15 mA, f = 2 GHz	8.5	11.5	—	
Noise Figure	NF (1)	V _{CE} = 3 V, I _C = 5 mA, f = 1 GHz	—	0.9	1.8	dB
	NF (2)	V _{CE} = 3 V, I _C = 5 mA, f = 2 GHz	—	1.3	2.2	

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 8\text{ V}, I_E = 0$	—	—	1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 1\text{ V}, I_C = 0$	—	—	1	μA
DC Current Gain	h_{FE}	$V_{CE} = 3\text{ V}, I_C = 15\text{ mA}$	50	—	250	V
Output Capacitance	C_{ob}	$V_{CB} = 2.5\text{ V}, I_E = 0,$	—	0.6	—	pF
Reverse Transfer Capacitance	C_{re}	$f = 1\text{ MHz}$ (Note)	—	0.4	0.85	pF

(Note) : C_{re} is measured by 3 terminal method with Capacitance Bridge.

CAUTION

This device electrostatic sensitivity. Please handle with caution.