

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

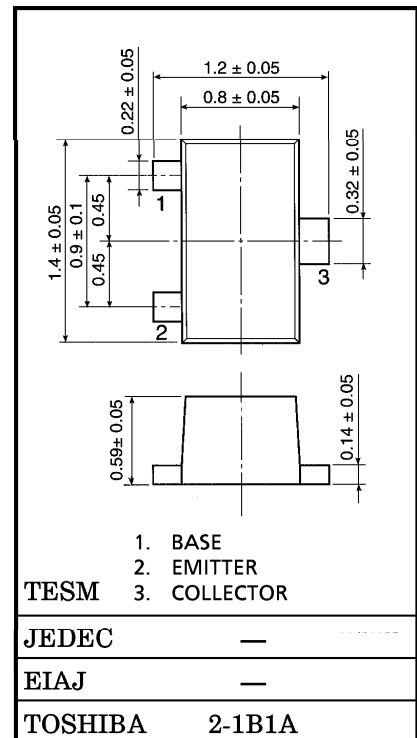
# 2SC5108FT

FOR VCO APPLICATION

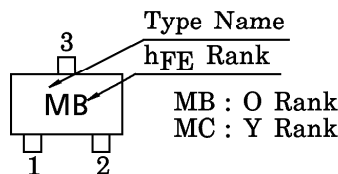
Unit in mm

**MAXIMUM RATINGS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	20	V
Collector-Emitter Voltage	V <sub>CEO</sub>	10	V
Emitter-Base Voltage	V <sub>EB0</sub>	3	V
Base Current	I <sub>B</sub>	15	mA
Collector Current	I <sub>C</sub>	30	mA
Collector Power Dissipation	P <sub>C</sub>	100	mW
Junction Temperature	T <sub>j</sub>	125	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°C



**MARKING**



**ELECTRICAL CHARACTERISTICS (Ta = 25°C)**

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0	—	—	0.1	μA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = 1V, I <sub>C</sub> = 0	—	—	0.1	μA
DC Current Gain	h <sub>FE</sub> (Note 1)	V <sub>CE</sub> = 5V, I <sub>C</sub> = 5mA	80	—	240	—
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 5mA	4	6	—	GHz
Insertion Gain	S <sub>21e</sub>   <sup>2</sup>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 5mA, f = 1GHz	7	11	—	dB
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 5V, I <sub>E</sub> = 0, f = 1MHz (Note 2)	—	0.7	—	pF
Reverse Transfer Capacitance	C <sub>re</sub>		—	0.5	0.9	pF
Collector-Base Time Constant	C <sub>c</sub> ·r <sub>bb</sub> '	V <sub>CB</sub> = 5V, I <sub>C</sub> = 3mA, f = 30MHz	—	5.5	10	ps

(Note 1) : h<sub>FE</sub> Classification    O : 80~160,    Y : 120~240  
 (Note 2) : C<sub>re</sub> is measured by 3 terminal method with capacitance bridge.

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