

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC5111FT

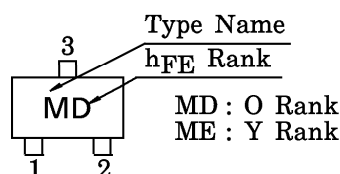
FOR VCO APPLICATION

Unit in mm

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	20	V
Collector-Emitter Voltage	V _{CEO}	10	V
Emitter-Base Voltage	V _{EB0}	3	V
Base Current	I _B	30	mA
Collector Current	I _C	60	mA
Collector Power Dissipation	P _C	100	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C

MARKING



1. BASE	
2. EMITTER	
3. COLLECTOR	
TESM	
JEDEC	—
EIAJ	—
TOSHIBA	2-1B1A

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	—	—	0.1	μA
Emitter Cut-off Current	I _{EBO}	V _{EB} = 1V, I _C = 0	—	—	0.1	μA
DC Current Gain	h _{FE} (Note 1)	V _{CE} = 5V, I _C = 5mA	80	—	240	—
Transition Frequency	f _T	V _{CE} = 5V, I _C = 5mA	4	6	—	GHz
Insertion Gain	S _{21e} ²	V _{CE} = 5V, I _C = 5mA, f = 1GHz	7	11	—	dB
Output Capacitance	C _{ob}	V _{CB} = 5V, I _E = 0, f = 1MHz (Note 2)	—	0.7	—	pF
Reverse Transfer Capacitance	C _{re}		—	0.5	0.9	pF
Collector-Base Time Constant	C _c ·r _{bb} '	V _{CB} = 5V, I _C = 3mA, f = 30MHz	—	5.5	10	ps

(Note 1) : h_{FE} Classification O : 80~160, Y : 120~240(Note 2) : C_{re} is measured by 3 terminal method with capacitance bridge.

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