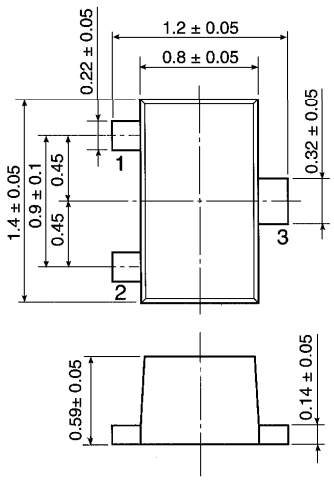
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC5111FT

FOR VCO APPLICATION

Unit in mm



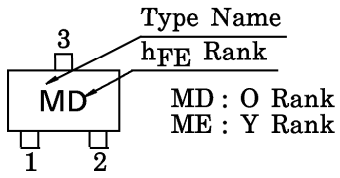
1. BASE
2. EMITTER
3. COLLECTOR

TESM	
JEDEC	—
EIAJ	—
TOSHIBA	2-1B1A

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	10	V
Emitter-Base Voltage	V_{EBO}	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



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	$C_c \cdot r_{bb}'$	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.

961001EAA2