TOSHIBA 2SC5111FT

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

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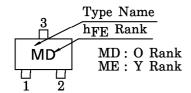
FOR VCO APPLICATION

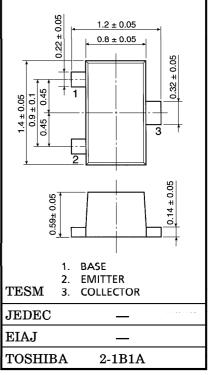
Unit in mm

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	$V_{ m EBO}$	3	V
Base Current	$I_{\mathbf{B}}$	30	mA
Collector Current	$I_{\mathbf{C}}$	60	mA
Collector Power Dissipation	$P_{\mathbf{C}}$	100	mW
Junction Temperature	Tj	125	$^{\circ}\mathrm{C}$
Storage Temperature Range	$\mathrm{T_{stg}}$	-55~125	$^{\circ}\mathrm{C}$

MARKING





Weight: 0.0022g

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	μ A
Emitter Cut-off Current	I_{EBO}	$V_{EB}=1V, I_{C}=0$	_	_	0.1	μ A
DC Current Gain	h _{FE} (Note 1)	$V_{CE}=5V, I_{C}=5mA$	80	_	240	_
Transition Frequency	$ m f_{ m T}$	$V_{CE}=5V, I_{C}=5mA$	4	6	_	GHz
Insertion Gain	$ \mathrm{S}_{21\mathrm{e}} ^2$	$V_{\text{CE}} = 5V$, $I_{\text{C}} = 5\text{mA}$, $f = 1\text{GHz}$	7	11	_	dB
Output Capacitance	$C_{ m ob}$	$V_{CB} = 5V, I_{E} = 0, f = 1MHz$	_	0.7	_	pF
Reverse Transfer Capacitance	$\mathrm{c_{re}}$	(Note 2)	_	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): hFE Classification $O: 80\sim160, Y: 120\sim240$

(Note 2): Cre is measured by 3 terminal method with capacitance bridge.

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