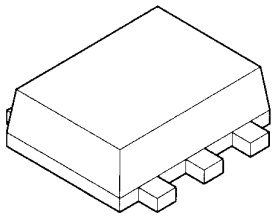
TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

TA4015FE

TA4015FE Use for Crystal Oscillators

Features

- Bias resistors, a transistor for oscillation and a transistor for buffer are packed in one package; hence, TA4015FT can easily compose a crystal oscillator.
- TA4015FE comes with a 6-pin thin ultra-compact package and is suitable for super-high density mounting.



SSOP6-P-0.5

Weight: 0.003 g (typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Power supply voltage	V_{CC}	6	V
Circuit current	I_{CC}	9	mA
Total power dissipation	P_D	100	mW
Junction temperature	T_j	125	°C
Storage temperature	T_{stg}	−55~125	°C

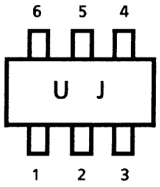
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings and the operating ranges.
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook (“Handling Precautions”/“Derating Concept and Methods”) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Circuit current	I_{CC}	—	V_{CC} = 3.0 V	1.10	1.32	1.52	mA
Oscillator base voltage	V_{OSCB}	—	V_{CC} = 3.0 V	1.65	1.71	1.79	V
Oscillator emitter voltage	V_{OSCE}	—	V_{CC} = 3.0 V	0.92	0.99	1.06	V
Buffer base voltage	V_{BuffB}	—	V_{CC} = 3.0 V	2.20	2.28	2.36	V
Fout voltage	V_{Fout}	—	V_{CC} = 3.0 V	1.95	2.02	2.10	V

Characteristics	Symbol	Typ.	Unit
R1 resistance	R_1	7.5	kΩ
R2 resistance	R_2	6.8	kΩ
R3 resistance	R_3	24	kΩ
R4 resistance	R_4	820	Ω
R5 resistance	R_5	820	Ω

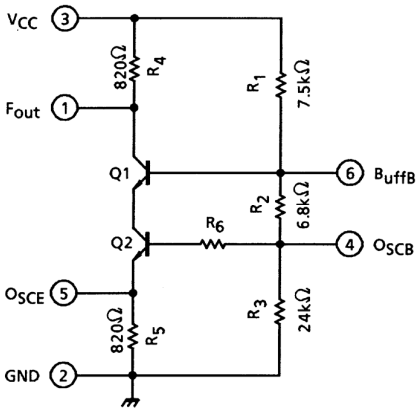
Marking



Caution

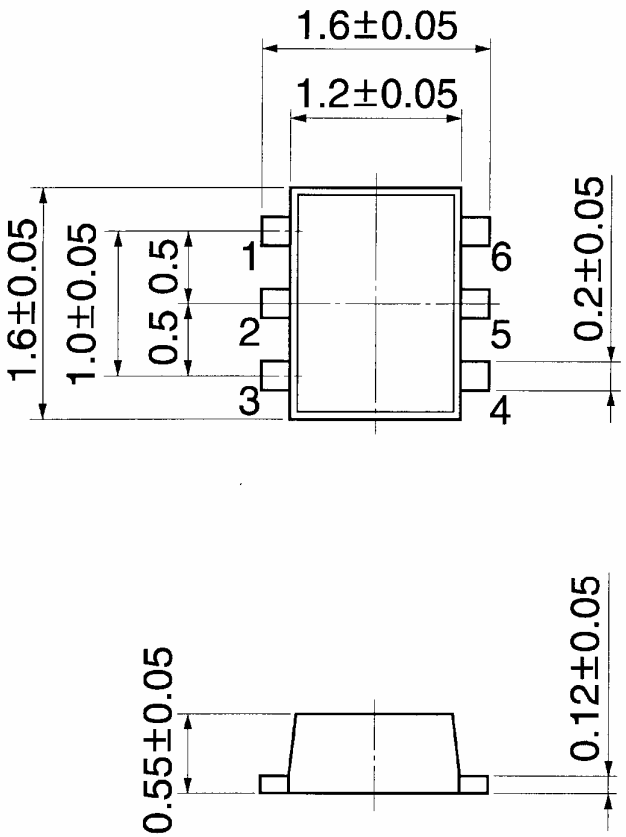
Because of this product structure, when handling this product, please be sure to protect work desk, human body and soldering irons from electrostatics.

Equivalent Circuit Diagram



Package Dimensions

SSOP6-P-0.5 Unit : mm



Weight: 0.003 g (typ.)

RESTRICTIONS ON PRODUCT USE

20070701-EN GENERAL

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- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property.
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