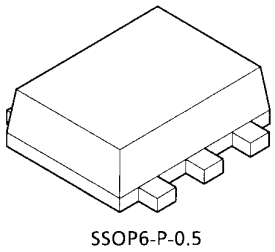
TOSHIBA Bipolar Linear Integrated Circuit Silicon Monolithic

TA4014FE

TA4014FE Use for Crystal Oscillators

Features

- Bias resistors, a transistor for oscillation and a transistor for buffer are packed in one package; hence, TA4014FE can easily compose a crystal oscillator.
- TA4014FE comes with a 6-pin thin ultra-compact package (1.6 mm × 1.6 mm) 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}	8	mA
Total power dissipation	P_D (Note 1)	100	mW (Note 1)
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).

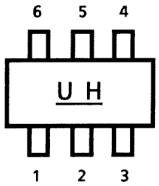
Note 1: When mounted on the glass epoxy board of 2.5 cm2 × 1.6 t.

Electrical Characteristics (Ta = 25°C)

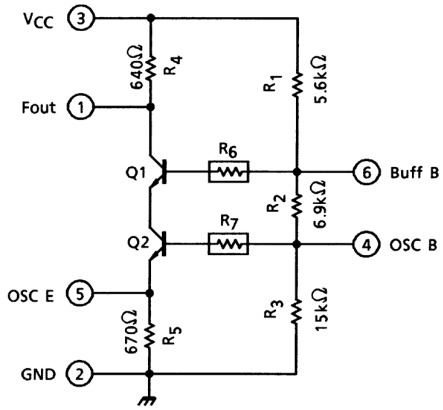
Characteristics	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Circuit current	I_{CC}	—	V_{CC} = 3.0 V	1.08	1.27	1.52	mA
Oscillator base voltage	V_{OSCB}	—	V_{CC} = 3.0 V	1.34	1.51	1.67	V
Oscillator emitter voltage	V_{OSCE}	—	V_{CC} = 3.0 V	0.69	0.79	0.88	V
Buffer base voltage	V_{BuffB}	—	V_{CC} = 3.0 V	2.05	2.29	2.53	V
Fout voltage	V_{Fout}	—	V_{CC} = 3.0 V	2.03	2.26	2.52	V

Characteristics	Symbol	Typ.	Unit
R1 resistance	R_1	5.6	kΩ
R2 resistance	R_2	6.9	kΩ
R3 resistance	R_3	15	kΩ
R4 resistance	R_4	640	Ω
R5 resistance	R_5	670	Ω

Marking

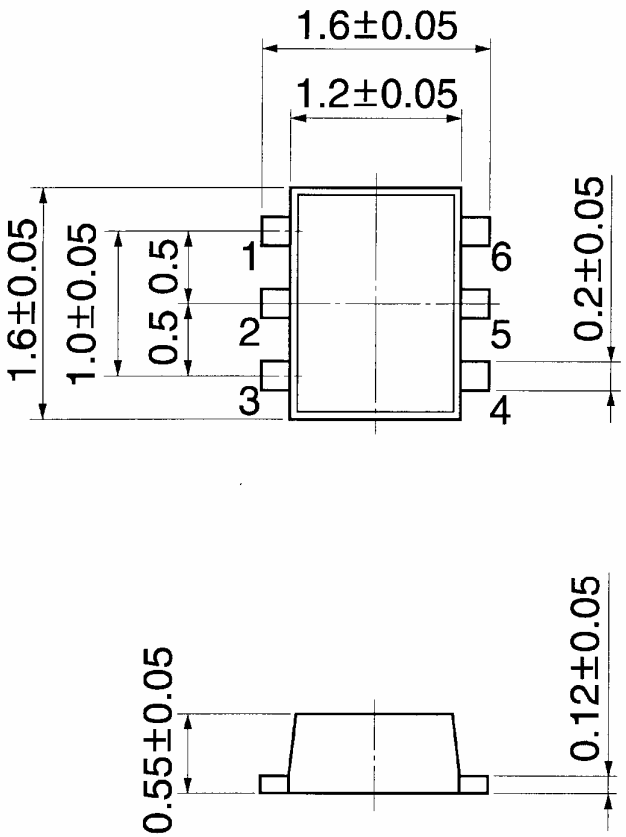


Equivalent Circuit Diagram



Package Dimensions

SSOP6-P-0.5 Unit : mm



Weight: 0.003 g (typ.)

RESTRICTIONS ON PRODUCT USE

20070701-EN GENERAL

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