

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# **Crystal Clock Oscillator**



# 2765E Series

# **EMI Noise-reducing Type**

### **■** Model name

2765E Overall frequency tolerance of ±100 x 10-6.

#### **■** Application

• For compact mobile information equipment, such as PDA and notebook PC

#### **■** Features

- With a spread spectrum function installed, this crystal oscillator effectively reduces EMI noise.
- · Down-spreading and center-spreading.
- With a standby function installed, power consumption is reduced.



RoHS Compliant
Directive 2011/65/EU

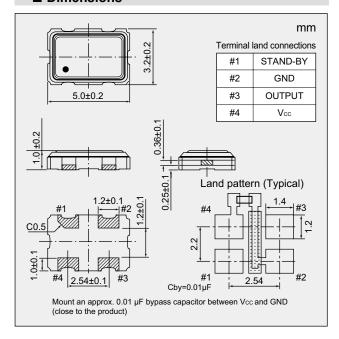
Absolute maximum rating Supply voltage (Vcc) -0.5 to +7.0 V Storage temperature range -55 to +125  $^{\circ}\text{C}$ 

# **■** Specifications

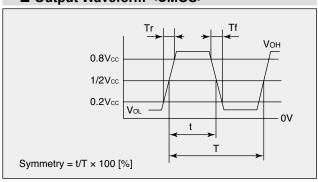
Mor		Model	2765E
Item			2700E
Output level			CMOS
Nominal frequency range *1		(MHz)	20 ≤ F ≤ 80
Operating temperature range *2		(°C)	-20 to +70
Overall frequency tolerance		(×10 <sup>-6</sup> )	±100
Supply voltage [Vcc]		(V)	+3.3±0.3
Current consumption (+3.3 V, 25 °C) max	During operation	(mA)	30
	During standby	(µA)	30
Vol max/Voн min		(V)	0.2 Vcc/0.8 Vcc
Tr max/Tf max		(ns)	5/5 (0.2 V <sub>CC</sub> to 0.8 V <sub>CC</sub> )
Symmetry min. to max.		(%)	40 to 60 (at 1/2 Vcc)
Load (C <sub>L</sub> ) max		(pF)	15
Start-up time max		(ms)	10
Standby function			Available (Three-state)
Number for specifying an order			NSA3393B

<sup>\*1:</sup> If you require a product with a frequency not given above, please contact us. \*2: If you require a product with an operating temperature range not given above, please contact us.

# **■** Dimensions



# ■ Output Waveform <CMOS>



### **■** Spread Spectrum Characteristics

Spreading Type	Spreading Ratio
Center spreading	±2.0 %

### **■** Standby Function

#1 Input	#3 Output
Level H (0.7 Vcc ≤ V <sub>IH</sub> ≤ Vcc) or OPEN is selected.	Oscillation output ON
Level L (V <sub>IL</sub> ≤ 0.3 V <sub>CC</sub> ) is selected.	High impedance

## ■ How to Specify an Order

If you have any queries concerning our standard frequencies and numbers for specifying orders, please contact our sales representatives or visit our homepage (http://www.ndk.com/).