



PSE Technology Corporation

SPECIFICATION FOR APPROVAL

CUSTOMER

NOMINAL FREQUENCY

50.000000 MHz

PRODUCT TYPE

TYPE FN 7.0x5.0 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

SPEC. NO. (P/N)

FN5000109

CUSTOMER P/N

ISSUE DATE

November 11, 2011

VERSION

E

APPROVED	PREPARED	QA
Brenda	Nikki Lu	Laithan
APPROVED BY CUSTOMER :		AVL Status
Please return one copy with approval to PSE-TW		

PSE Technology Corporation

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<http://www.saronix-ecera.com.tw>

*Pb-free

*RoHS Compliant

*HF-Halogen Free

*REACH Compliant

*** A company of  **PERICOM Semiconductor Corporation** ***

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VERSION HISTORY

[illegible]

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ELECTRICAL SPECIFICATIONS

SRe Part Number : FN5000109

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fo	50.000000	MHz	
Frequency Stability	FT	± 25	ppm	**See note
Operating Temperature Range	TR	-20 to +70	°C	
Supply Voltage	V _{DD}	+3.3 ± 10.0%	V	
Logic Type	LT	LVC MOS		
Supply Current, Output Enabled	I _{DD} /OE	25	mA	Max.
Supply Current, Output Disabled	I _{DD} /OD	10	μA	Max.
Duty Cycle (Symmetry)	DC/SY	45 / 55	%	Measured 50% of Waveform
Rise / Fall Time	T _R /T _F	7	ns	Max. measured 20/80% of Waveform
Output Voltage "0" Level	V _{OL}	10% V _{DD}	V	Max.
Output Voltage "1" Level	V _{OH}	90% V _{DD}	V	Min.
Output Load	CL	15	pF	Max
Jitter, Phase	RMS(1-σ)	1.5	ps	Max, 12KHz ~ 20MHz Frequency Band
Jitter, Accumulated	RMS(1-σ)	5	ps	Max, 20,000 Consecutive Periods
Jitter, Peak to Peak	Pk-Pk	50	ps	Max, 100,000 Random Periods
Start Up Time		10	ms	Max.
Storage Temperature Range		-55°C to +125°C	°C	

※ This product doesn't include harmful substance that stipulated by SONY SS-00259 Level 1 and S-AT2-001 Level 1 standard. RoHS Compliant (Pb - Free).

**Stability includes all combinations of Operating Temperature, Load changes, rated Input (Supply) Voltage changes, Initial Calibration Tolerance (25°C), Aging (1 year at 25°C Average Effective Ambient Temperature), Shock and Vibration.

Output Enable / Disable Function

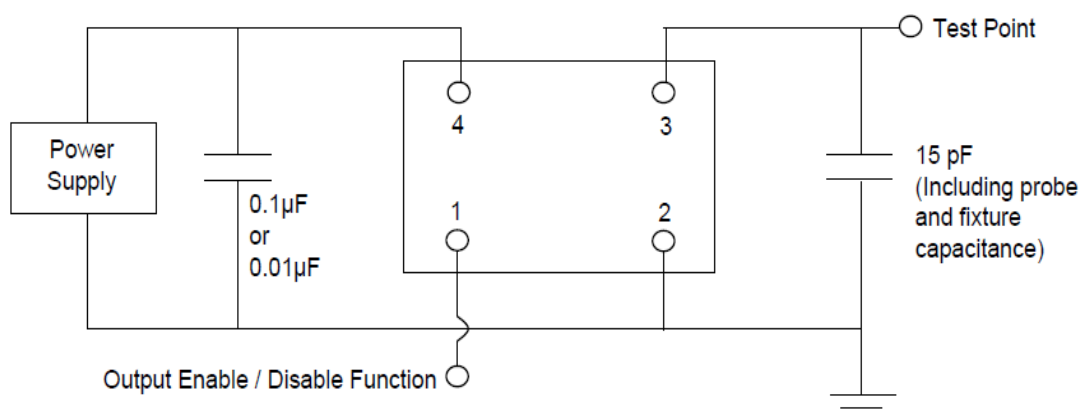
Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (Pin1), Output Enable	0.7V _{DD}			V	Or Open
Input Voltage (Pin1), Output Disable (low power standby)			0.3V _{DD}	V	Output is Hi-Z
Internal Pullup Resistance	30			KΩ	
Output Disable Delay			200	ns	
Output Enable Delay			2	ms	

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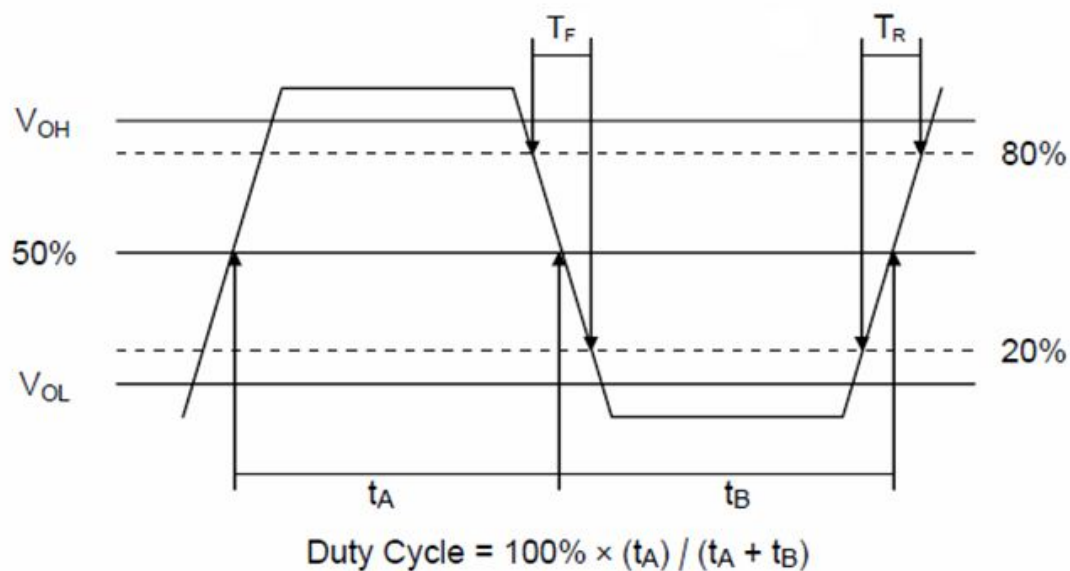
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TEST CIRCUIT



OUTPUT WAVEFORM



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RELIABILITY SPECIFICATIONS

ENVIRONMENTAL:

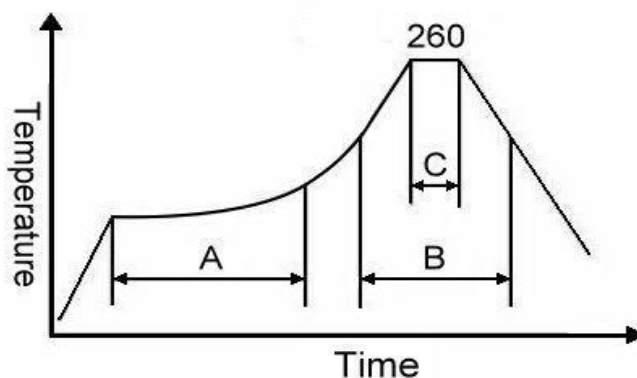
- a) THERMAL SHOCK: MIL-STD-883, Method 1011, Condition A
- b) MOISTURE RESISTANCE: MIL-STD-883, Method 1004
- c) VIBRATION: MIL-STD-883, Method 2007, Condition A
- d) RESISTANCE TO SOLDERING HEAT: J-STD-020D Table 5-2 Pb-free devices (except 2 cycles max)
- e) HAZARDOUS SUBSTANCE: Pb - free and RoHS Compliant.

MECHANICAL:

- a) SHOCK: MIL-STD-883, Method 2002, Condition B
- b) SOLDERABILITY: JESD22-B102-D Method 2 (Preconditioning E)
- c) TERMINAL STRENGTH: MIL-STD-883, Method 2004, Test Condition D
- d) GROSS LEAK: MIL-STD-883, Method 1014, Condition C
- e) FINE LEAK: MIL-STD-883, Method 1014, Condition A2, $R1=2 \times 10^{-8}$ atm cc/s
- f) SOLVENT RESISTANCE: MIL-STD-202, Method 215

SUGGESTED IR REFLOW PROFILE

*As per IPC-JEDEC J-STD-020D



Note:

	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

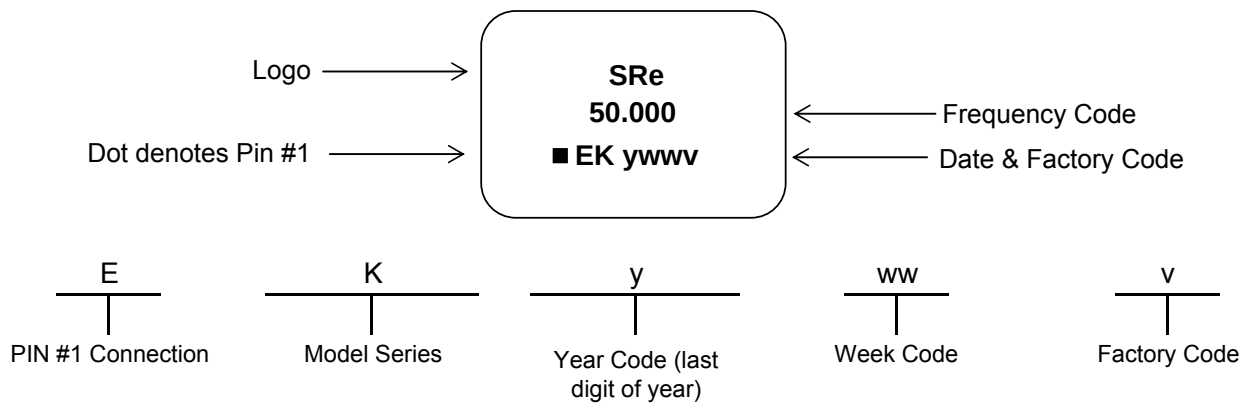
For soldering reflow profile and reliability test ratings go to: <http://www.pericom.com/pdf/sre/reflow.pdf>

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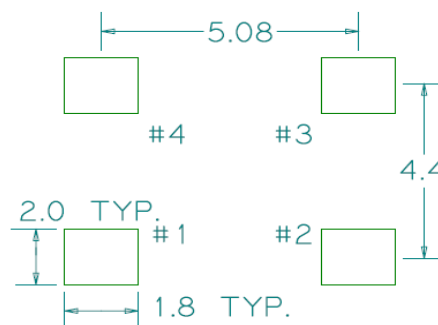
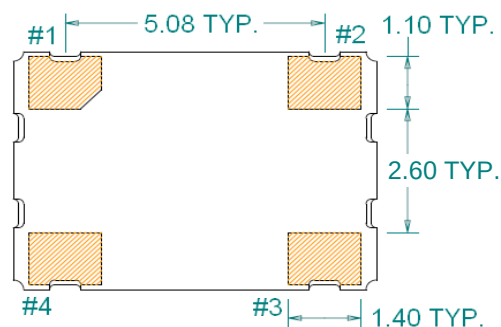
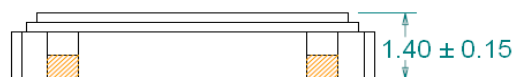
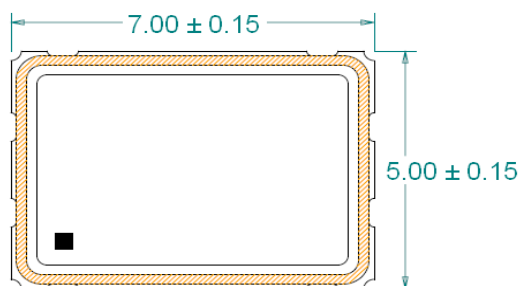
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MARKING



MECHANICAL DRAWINGS (Scale:None. Dimensions are in mm.)



*External high-frequency power decoupling is recommended. (see test circuit for minimum recommendation). To ensure optimal performance, do not route traces beneath the package.

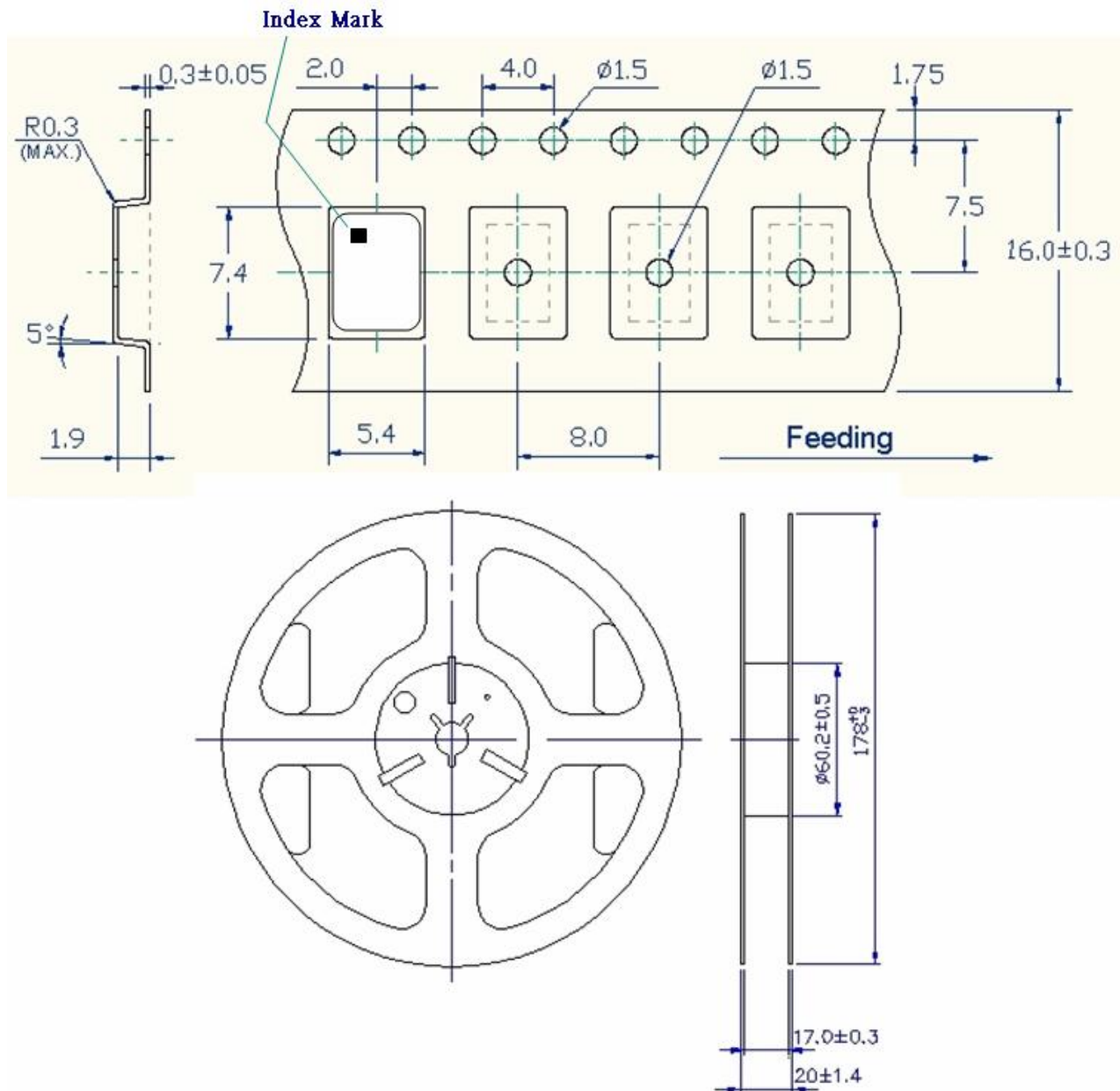
Pin	Function
1	OE
2	Ground
3	Clock Output
4	V _{DD}

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TAPE&REEL



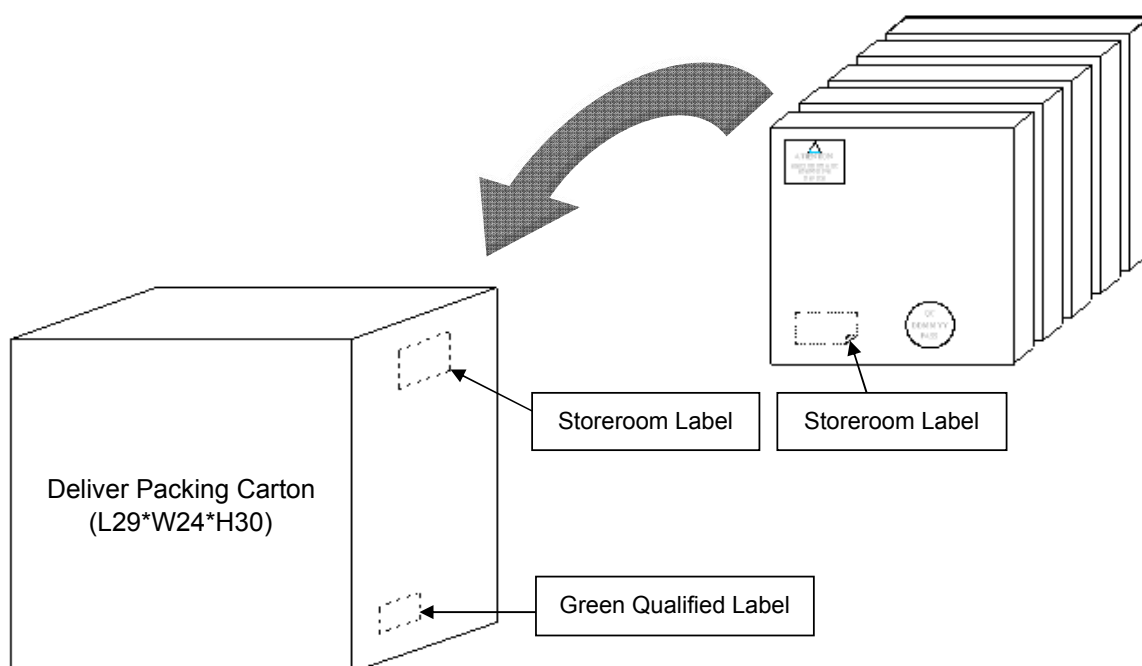
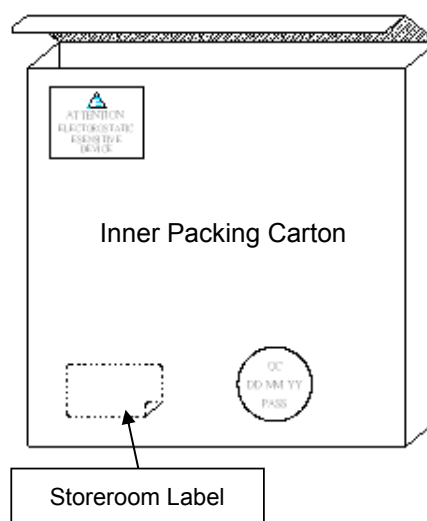
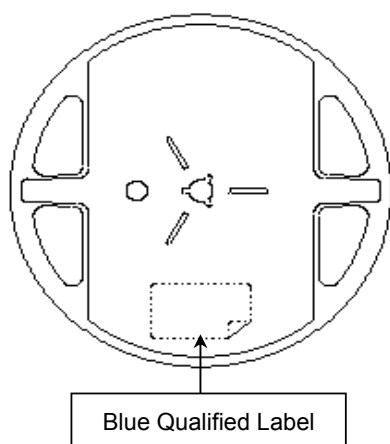
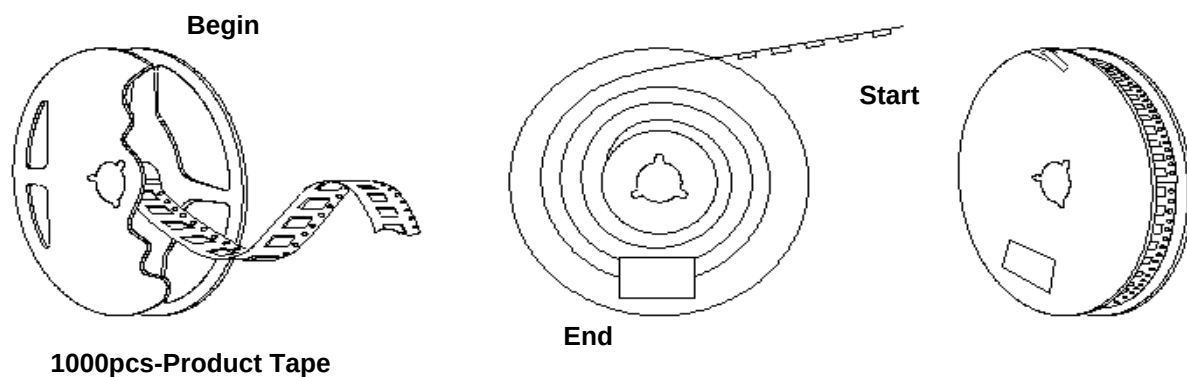
1. 230mm minimum leader which consist of carrier and/or tape followed by a minimum of 160mm of empty carrier tape sealed with cover tape.
2. 160mm minimum trailer of empty carrier tape sealed with cover tape.

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PACKING



Mouser Electronics

Authorized Distributor

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[NX3261E0125.000000](#) [NX3232E0156.250000](#) [NX5031E0166.666666](#) [NX5031E0125.000000](#) [KX2013E0032.768000](#)
[NX3222E0156.250000](#) [NX5011C0120.000000](#) [NX5011C0056.000000](#) [NX5021E0156.250000](#) [NX7011E0091.500000](#)
[NX7012D0025.001875](#) [NX7011D0070.656000](#) [NX7011E0059.000000](#) [SHPCIE100](#) [FNGEPO002](#)
[KX3213D0032.768000](#) [KX3213E0032.768000](#) [KX3211E0032.768000](#) [KX3211D0032.768000](#) [S1633E-40.0000\(T\)](#)
[HX2127001Q](#) [HX7011C0050.000000](#) [HX7011C0020.000000](#) [NX7021D0622.080000](#) [HX3127001Q](#)
[HX3212F0040.000000](#) [WF7021B0622.080000](#) [NX7011D0074.250000](#) [WF9021B0622.080000](#) [NX7011D0074.175824](#)
[HX3125006Q](#) [NX7031D0200.000000](#) [FD2450017](#) [FN1200041Z](#) [FN2500233Z](#) [NX5011B0125.000000](#) [NX53D3301Z](#)
[NX72G1102Z](#) [UX52F6204Z](#) [FN2500264Z](#) [FNC500131](#) [KD3270046Z](#) [NX3241E0100.000000](#) [UJ2600001](#)
[FN0200045](#) [NX3211C0125.000000](#) [NX73K0004Z](#) [UX31F6201Z](#) [FM3900001Z](#) [NX7021E0150.000000](#) [NX71C50001](#)
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