

**SM5032-6 Case**

### Features:

- Surface Mount Seam Weld Package
- Excellent Reliability Performance
- Good Frequency Perturbation and Stability over temperature
- Moisture Sensitivity Level (MSL) : Level-1

### Application:

- 3.3 V Supply Voltage LVDS Output
- Option-able stand-by function for output .

### Electrical Characteristics:

	Parameters	SYM.	Electrical Spec.				Notes
			Min.	Typical	Max.	Unit	
1	Nominal Frequency	FL	200.000000			MHz	
2	Holder Type						5.0 * 3.2 * 1.2mm , 6pads , SMD Type
3	Input Voltage	V <sub>DD</sub>	2.25	3.3	3.63	V	D.C. ± 10 %
4	Output Voltage High " 1 "	V <sub>oh</sub>		1.4	1.6	V	RL = 100 ohms
5	Output Voltage Low " 0 "	V <sub>oL</sub>	0.9	1.1		V	
6	Output Swing	V <sub>os</sub>	250			mV	
7	Frequency Stability	F <sub>opr</sub>	-25		25	ppm	Over Operating Temperature
8	Current Consumption	I <sub>cc</sub>		15	35	mA	measured with terminating resistors
9	Rise Time & Fall Time	Tr , Tf		0.2	0.4	n Sec.	20% ↔ 80 % of waveform
10	Duty Cycle	tw/t	45		55	%	at 50 % waveform ± 5 %
11	Star -up Time	ST		1.0	5.0	m Sec.	
12	Load	Load		100		Ω	between output and complimentary output
13	Operating Temperature	T <sub>use</sub>	-40		105	°C	
14	Storage Temperature	T <sub>stg</sub>	-55		150	°C	
15	Aging	F <sub>aging</sub>	-3		3	ppm	First year
16	Integrated Phase Jitter	J <sub>rms</sub>		98		femtosecond	12 KHz to 20 MHz integrated

17	Period Jitter RMS	JPER		0.25		ps		
17	Phase Noise (dBc/Hz)	10 Hz	100 Hz	1k Hz	10k Hz	100k Hz	1M Hz	10M Hz
		-55	-90	-126	-140	-150	-152	-157
18	OE Control on Pad 1	If $V_{DD} * 70%$ (min.) is applied : Output. Enable Oscillation enable time : 5 ms (max.) If $V_{DD} * 30%$ (max.) is applied : Output Disable Oscillation disable time : 0.2 us (max.) Current consumption is 10 uA max. ( $OE \leq 0.3V$ )						

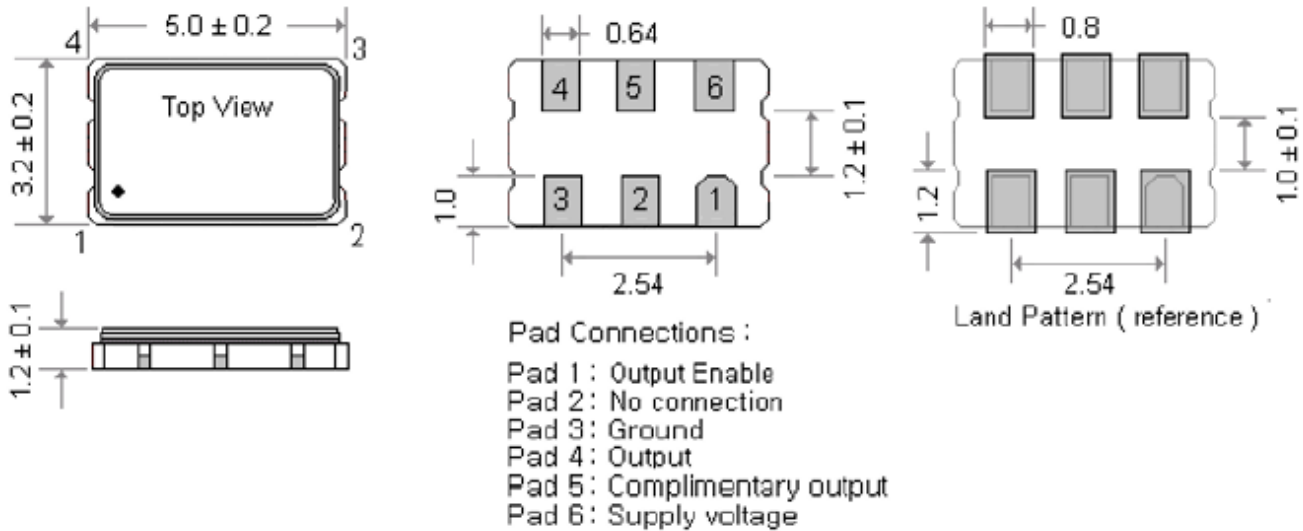


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

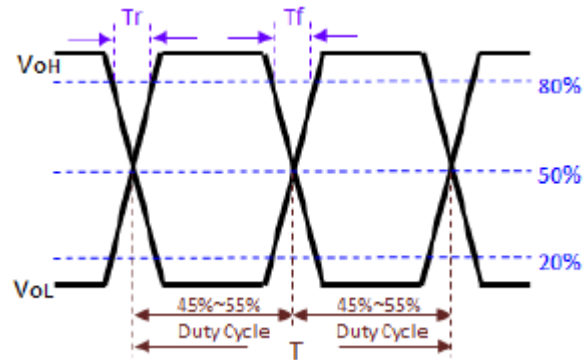
**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

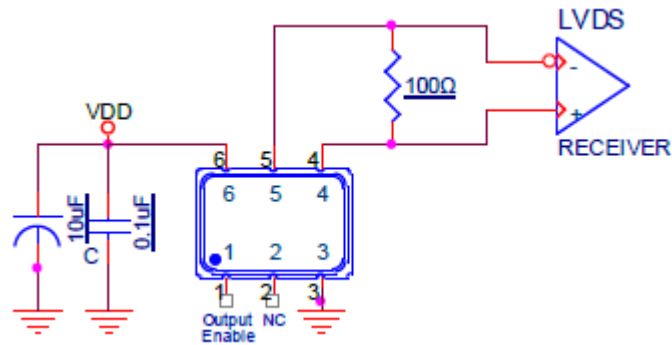
## Mechanical Dimensions: (Unit: mm)



## Test Circuit:

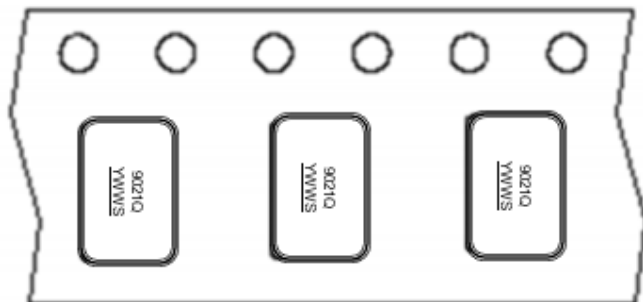


## Output Waveform :



## Marking:

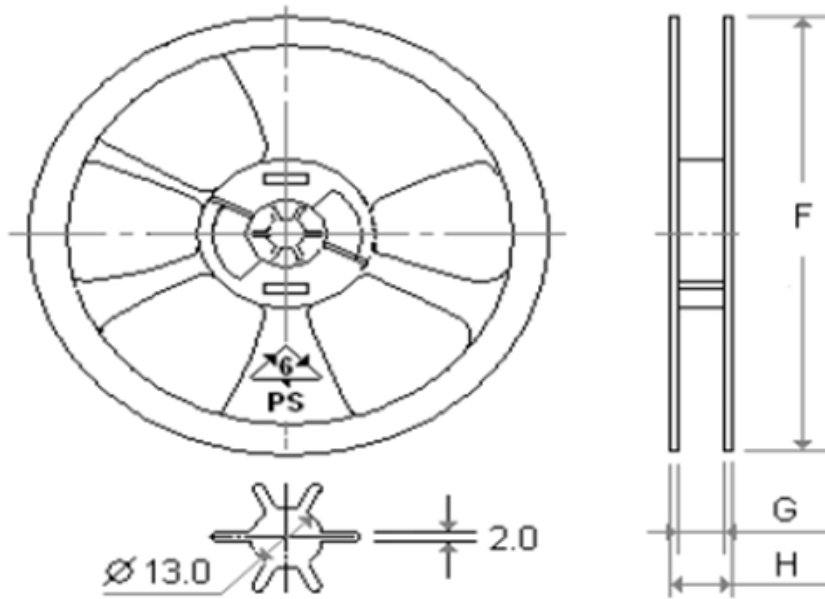
Y = Year, WW = Week, S = Shift



# Reel Dimensions (mm):

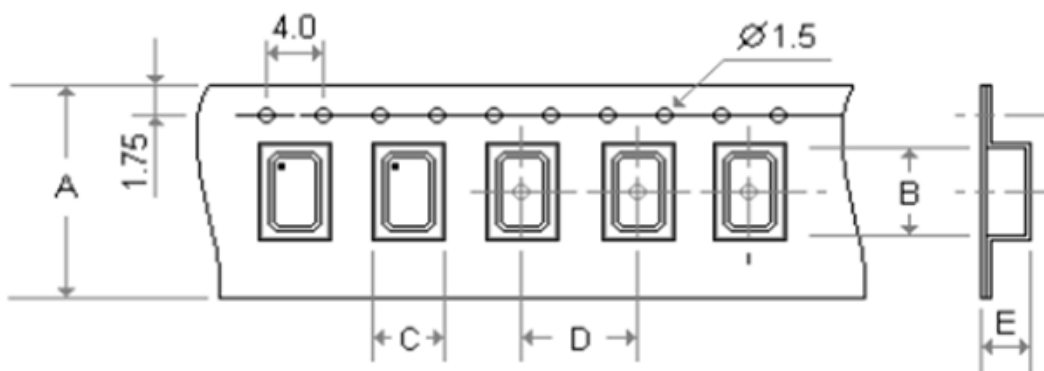
Reel Count:  
7" = 1000

Tape and Reel Standard per ANSI/EIA-481



F	G	H
180	13.0	16.0

# Tape Dimensions (mm):

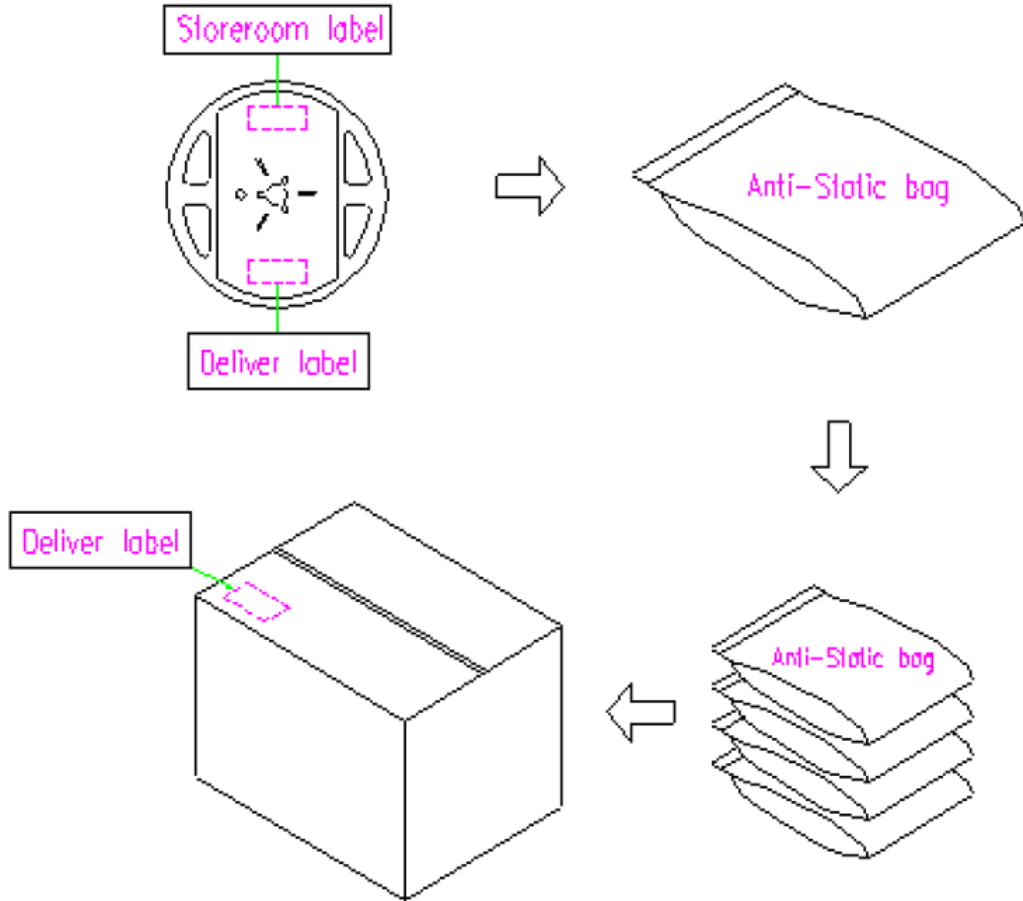


A	B	C	D	E
12.0	5.3	3.6	8.0	1.4

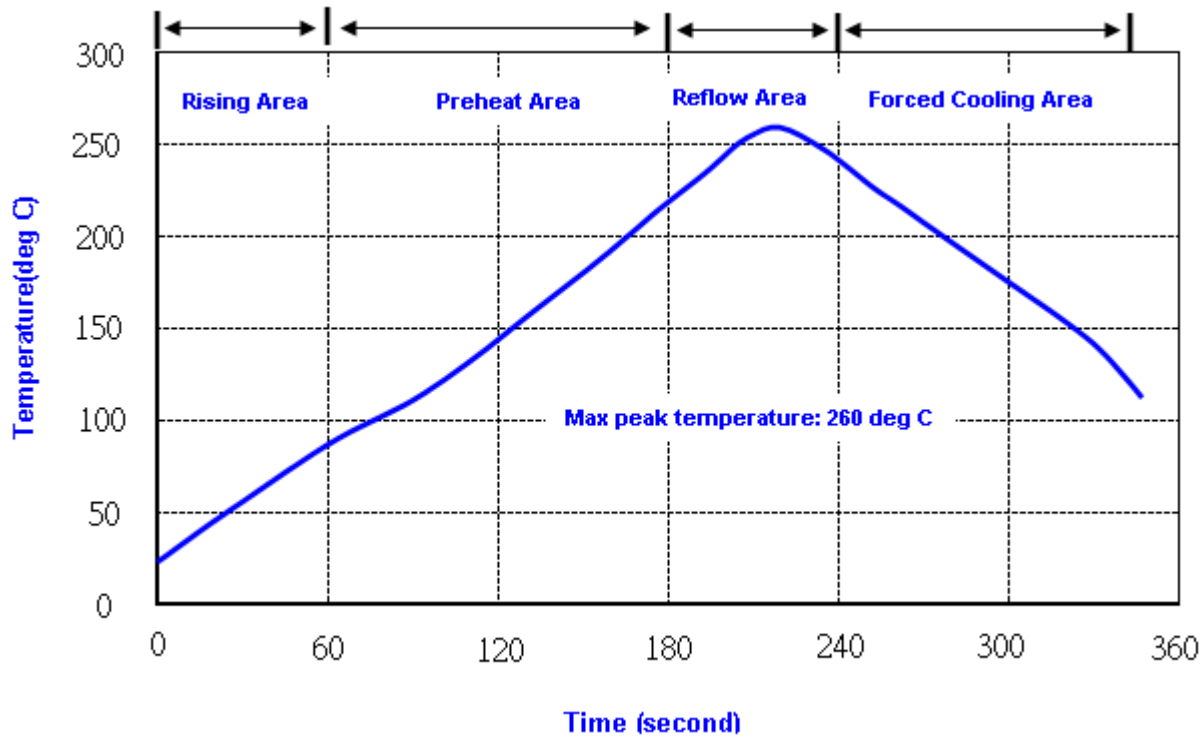
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# Packing Quantity/Packing:

1K pcs maximum per reel



## Reflow Profile:



- Note: 1. Max peak temperature: 260 $\pm$ 5 deg C; Time: 10 $\pm$ 2 sec  
2. Temperature: 217 $\pm$ 5 deg C; Time: 90~100 sec

## Reliability Specifications

Test name	Test process / method	Reference standard
<b>Mechanical characteristics</b>		
resistance to Soldering heat (IR reflow)	Temp./ Duration : 265°C /10sec ×2 times Total time : 4min.(IR-reflow)	EIAJED-4701 -300(301)M(II)
Vibration	Total peak amplitude : 1.5mm Vibration frequency : 10 to 2000 Hz Sweep period : 20 minute Vibration directions : 3 mutually perpendicular Duration : 2 hr / direc.	MIL-STD 202G method 204
Mechanical Shock	directions : 3 impacts per axis Acceleration : 3000g's, +20/-0 % Duration : 0.3 ms (total 18 shocks) Waveform : Half-sine	MIL-STD 202G method 213
Solderability	Solder Temperature:265±5°C Duration time: 5±0.5 seconds.	J-STD-002
<b>Environmental characteristics</b>		
Thermal Shock	Heat cycle conditions -40 °C (30min) ↔ 85 °C (30min) * cycle time : 10 times	MIL-STD 883G method 1010.8
Humidity test	Temperature : 85 ± 2 °C Relative humidity : 85% Duration : 96 hours	MIL-STD 202G method 103
Dry heat ( Aging test )	Temperature : 125 ± 2 °C Duration : 168 hours	MIL-STD 202G method 108A
Cold resistance (Low Temp Storage)	Temperature : -40 ± 2 °C Duration : 96 hours	IEC 60068-2-1