

Product name VG7050EBN 644.531250MHz CJGHBZ

Product code / Ordering code X1G0045510013xx

Please refer to the 8.Packing information about xx (last 2 digits)

Output waveform LV-PECL

Pb free / Complies with EU RoHS directive

Reference weight Typ.166mg

1.Absolute maximum ratings

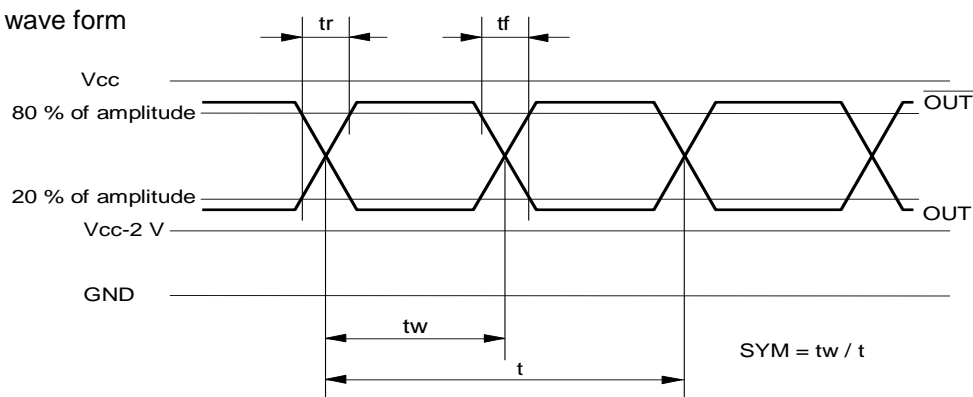
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions / Remarks
Maximum supply voltage	V _{cc-GND}	-0.3	-	+4	V	-
Storage temperature	T _{stg}	-55	-	+125	°C	-
Input voltage	V _{in}	-0.3	-	V _{cc} +0.3	V	V _c pin

2.Specifications(characteristics)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions / Remarks
Output frequency	f ₀		644.5313		MHz	
Supply voltage	V _{cc}	2.97	3.3	3.63	V	-
Control voltage	V _c	0.3	1.65	3	V	V _c =1.65V+/-1.35V
Operating temperature	T _{use}	-40	-	+85	°C	-
Frequency tolerance	f _{tol}	-50	-	+50	x10 ⁻⁶	includes 10 years aging
Current consumption	I _{cc}	-	-	90	mA	L _{ECL} = 50Ω
Disable current	I _{dis}	-	-	-	mA	-
Frequency control range	f _{cont}	+/-100	-	-	x10 ⁻⁶	-
Absolute pull range	APR	+/-50	-	-	x10 ⁻⁶	-
Modulation characteristics	BW	10	-	-	kHz	+/-3 dB
Input resistance	R _{in}	5000	-	-	kΩ	DC Level
Frequency change polarity	-					Positive polarity
Symmetry	SYM	45	-	55	%	at outputs crossing point
Output voltage	V _{OH}	V _{cc} -1.025	-	-	V	-
	V _{OL}	-	-	V _{cc} -1.62	V	-
Output load condition	L _{ECL}	-	50	-	Ω	Outputs terminated to V _{cc} -2.0V
Input voltage	V _{IH}	70%V _{cc}	-	-	V	OE pin
	V _{IL}	-	-	30%V _{cc}	V	OE pin
Rise time	t _r	-	-	0.4	ns	20 % to 80 % of amplitude
Fall time	t _f	-	-	0.4	ns	20 % to 80 % of amplitude
Start-up time	t _{str}	-	-	10	ms	-
Phase noise	F _{CN}	-	-90	-	dBc/Hz	Offset 100Hz
		-	-107	-	dBc/Hz	Offset 1kHz
		-	-114	-	dBc/Hz	Offset 10kHz
		-	-118	-	dBc/Hz	Offset 100kHz
		-	-137	-	dBc/Hz	Offset 1MHz
Phase jitter	t _{PJ}	-	0.2	-	ps	Offset Frequency: 12kHz to 20MHz
Frequency aging	f _{aging}	-	-	-	x10 ⁻⁶	Included in frequency tolerance

3. Timing chart

Output wave form



4. Test circuit

1) Condition

(1) Oscilloscope

- Bandwidth should be 5 times higher than DUT's output frequency.
- Probe ground should be placed closely from test point and lead length should be as short as possible.

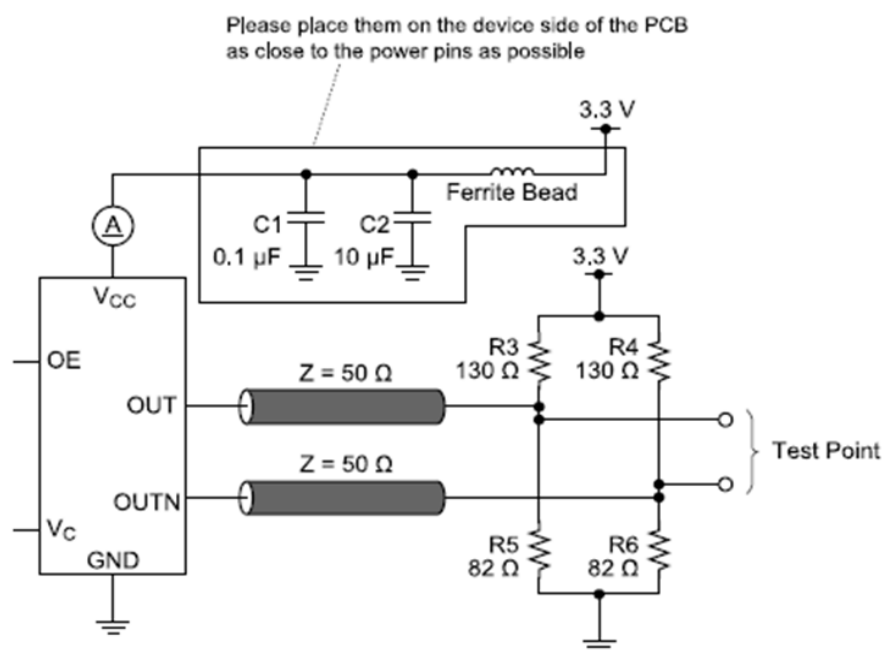
(2) By-pass capacitor (approx. 0.01mF~0.1 mF) should be placed closely between V_{CC} and GND.

(3) Use the current meter whose internal impedance value is small.

(4) Power supply

- Start up time (0 V \rightarrow 90 % V_{CC}) of power source should be more than 150us.
- Impedance of power supply should be as low as possible.

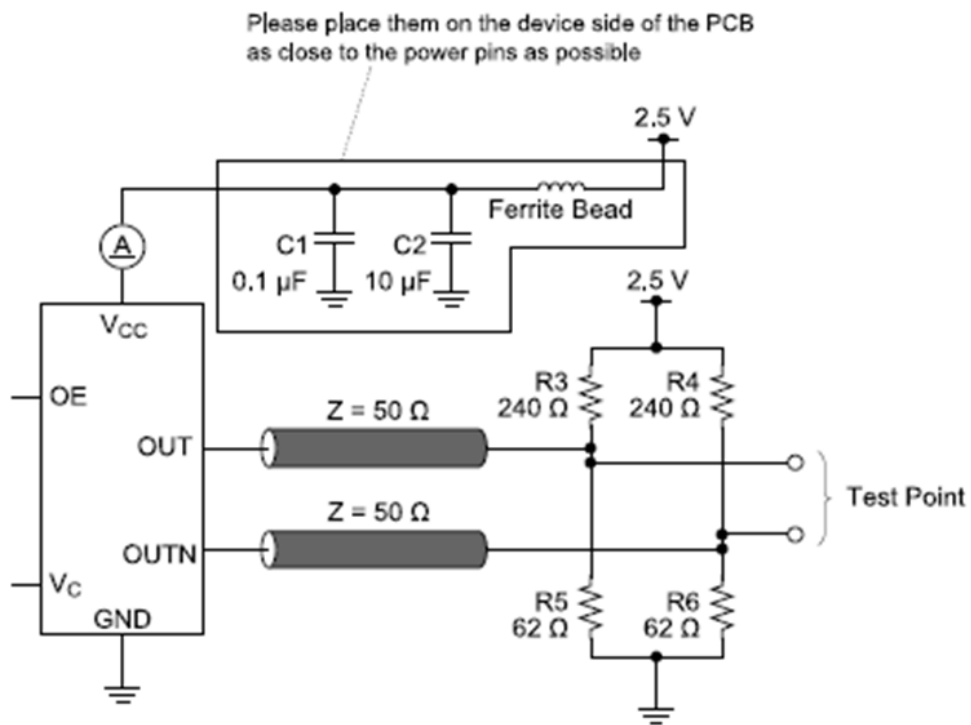
2) $V_{CC} = 3.3V$



[Pin Connections]

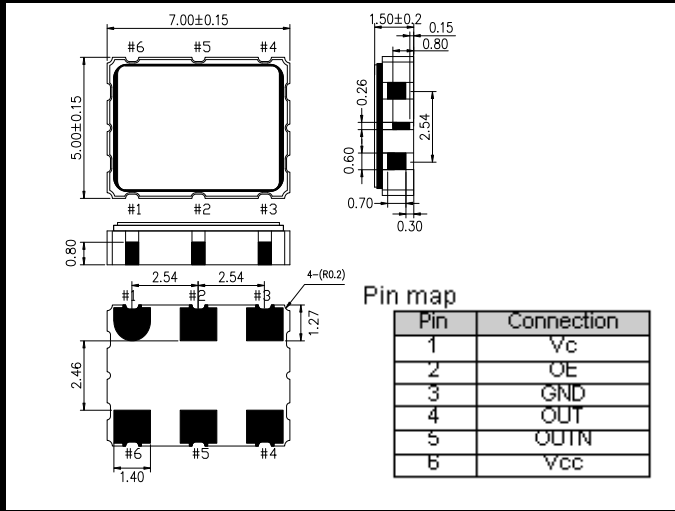
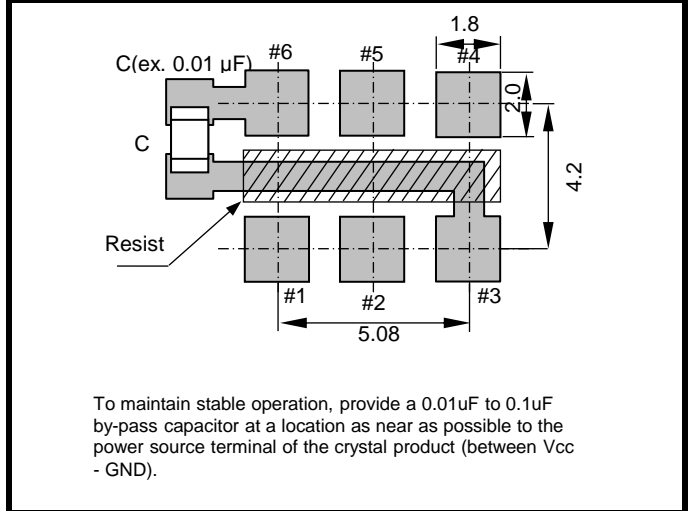
1. V_c
2. OE
3. GND
4. OUT1 (Positive)
5. OUT2 (Negative)
6. V_{CC}

3) $V_{CC} = 2.5V$

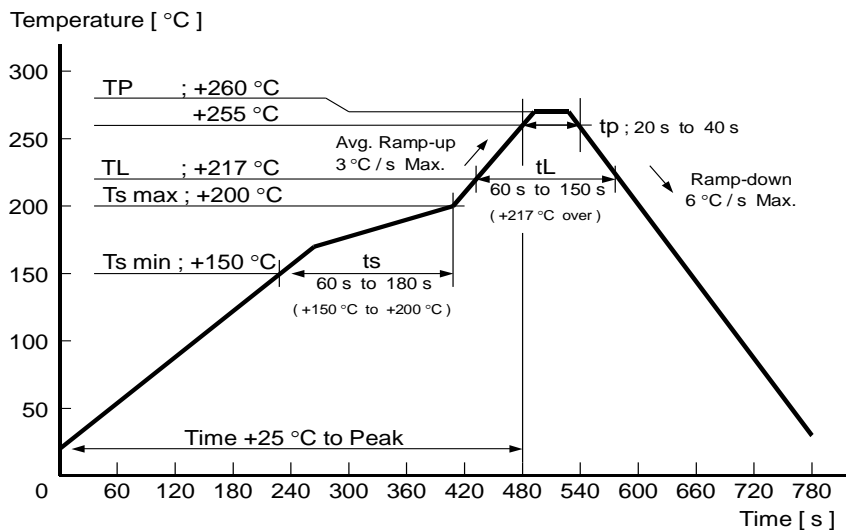


[Pin Connections]

1. V_c
2. OE
3. GND
4. $OUT1$ (Positive)
5. $OUT2$ (Negative)
6. V_{CC}

5.External dimensions (Unit: mm)**6.Footprint(Recommended) (Unit: mm)****7.Reflow profile**

Reflow condition (Follow of JEDEC STD-020D.01)

**8.Packing information**

[1] Product number last 2 digits code(xx) description

The recommended code is "00"

X1G0045510013xx

Code	Condition	Code	Condition
00	1000pcs / Reel	12	250pcs / Reel
01	Any Q'ty vinyl bag(Tape cut)	13	500pcs / Reel
11	Any Q'ty / Reel		

[2] Taping specification

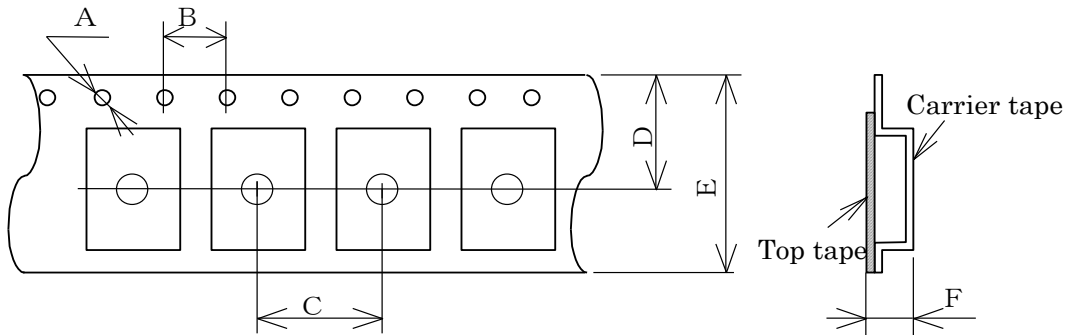
Subject to EIA-481 & IEC-60286

(1) Tape dimensions

Material of the Carrier Tape : PS

Material of the Top Tape : PET+PE

Unit: mm

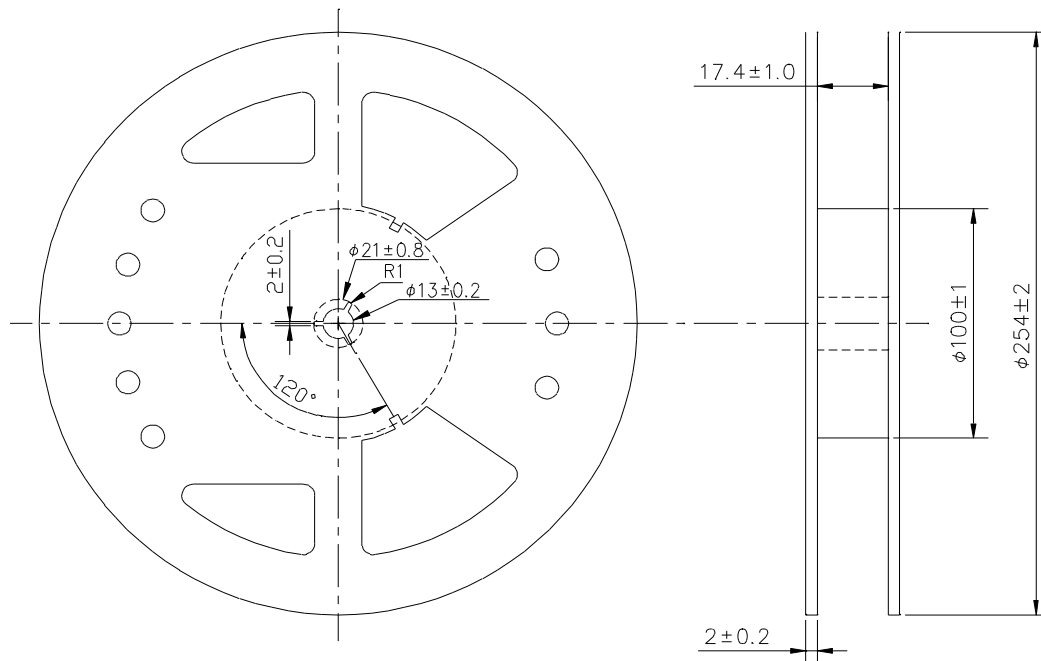


Symbol	A	B	C	D	E	F
Value	$\Phi 1.5$	4	8	9.25	16	2.3

(2) Reel dimensions

Center material : PS

Material of the Reel : PS



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