



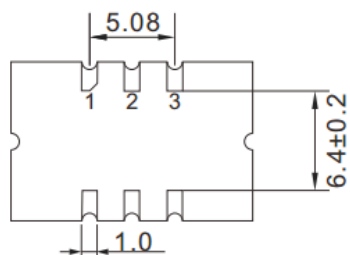
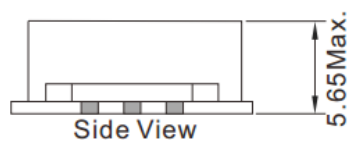
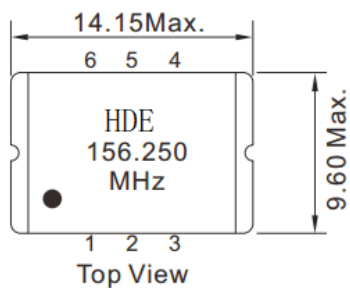
普通晶体振荡器 (SPX0)

■ 技术指标:

指标名称 PARAMETER		值和单位 Value and Unit	条 件 conditions
标 称 频 率 Nominal Frequency		25.000 - 700.00MHz	25℃
频率稳定度 Frequency stability	温度稳定度 VS Temperature	$\leq \pm 25\text{ppm}$	-20℃~+70℃
		$\leq \pm 50\text{ppm}$	-40℃~+85℃
	老化率 Aging	$\leq \pm 3.0\text{ppm}$	First year
	频率准确度 Calibration frequency	$\leq \pm 25\text{ppm}$	
输出 Out signal	电平	LVDS	
	幅度 level	低电平 (max): 0.9V 高电平 (min): 1.6V	
	负载 load	100 Ω	
	占空比 Duty cycle	45%~55%	
输出 Out signal 电源 Power 温度范围 Temperature Range	上升沿/下降沿 Rise/Fall time	1ns/1ns	20%~80%
	开始时间 Start-up Time	3ms	
	抖动 Phase Jitter	1pS max.	12kHz-20MHz
	供电电压 Power Supply	+3.3 $\times$ (1 $\pm$ 5%) V +2.5 $\times$ (1 $\pm$ 5%) V	
	工作电流 Current consumption	$\leq 100\text{mA}$	
	工作温度 Operating temperature	-40℃~+85℃	
	储藏温度 Storage temperature	-55~125℃	
Package	外形尺寸 (max) Outside measurement	14.2 $\times$ 9.6 $\times$ 6.0	mm

Package:

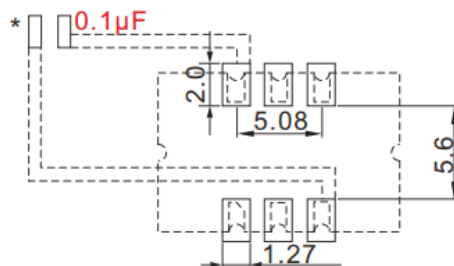
Units: mm



Pin Connections

Pin No.	Connection
1	OE or NC
2	OE or NC
3	GND
4	Output
5	Comp. Output
6	Vcc

* External high frequency power supply decoupling required



Waveform Diagrams

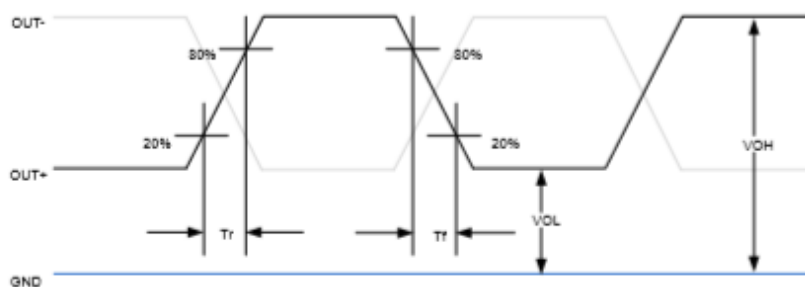


Figure 1(a). LVPECL Voltage Levels per Differential Pin (OUT+/OUT-)

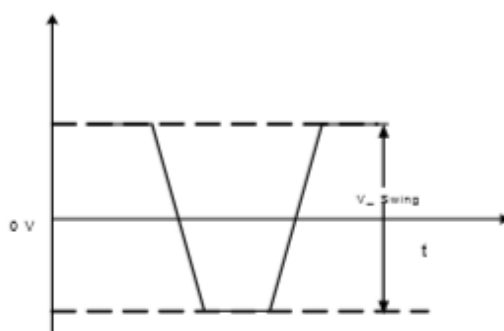


Figure 1(b). LVPECL Voltage Levels Across Differential Pair

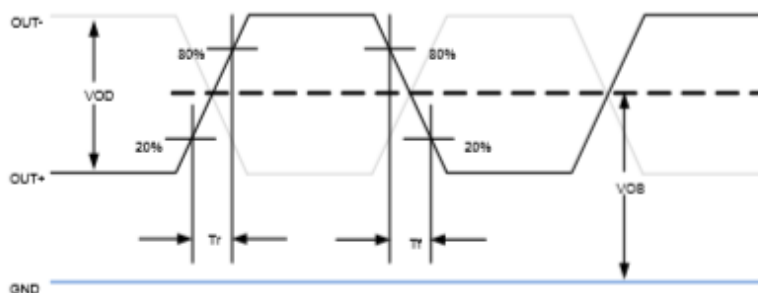


Figure 2. LVDS Voltage Levels per Differential Pin (OUT+/OUT-)

Termination Diagrams

LVPECL:

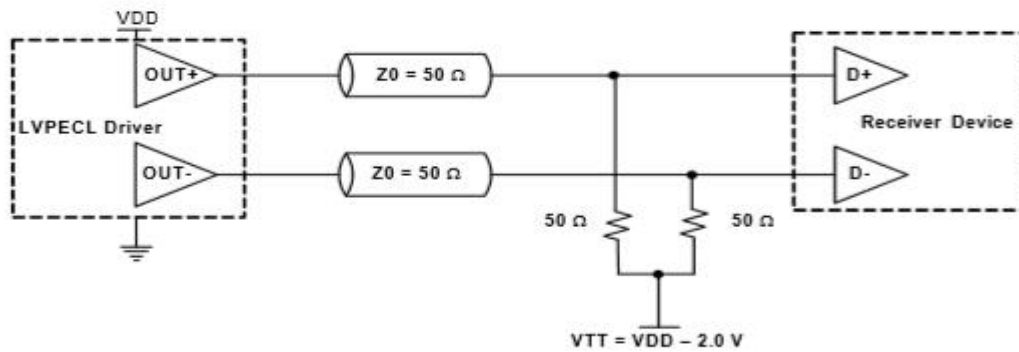


Figure 3. LVPECL Typical Termination

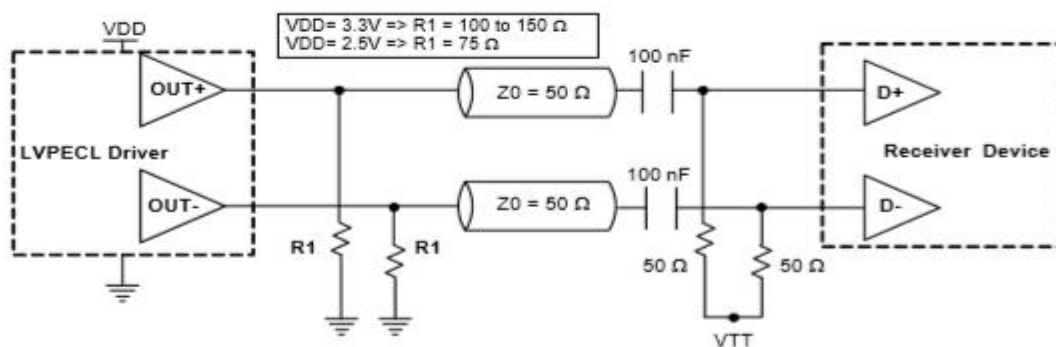


Figure 4. LVPECL AC Coupled Termination

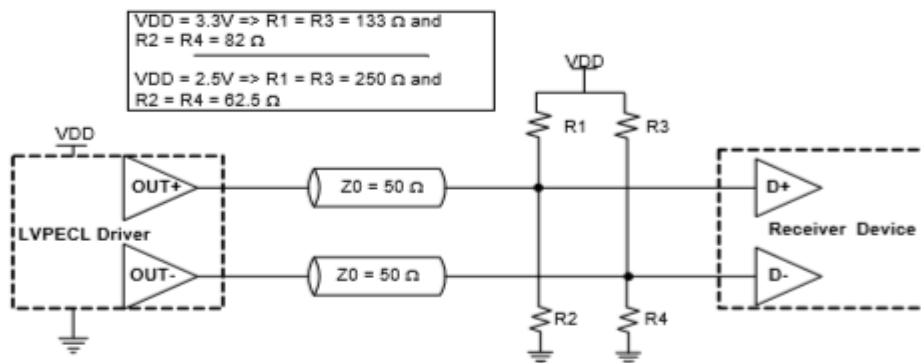


Figure 5. LVPECL with Thevenin Typical Termination

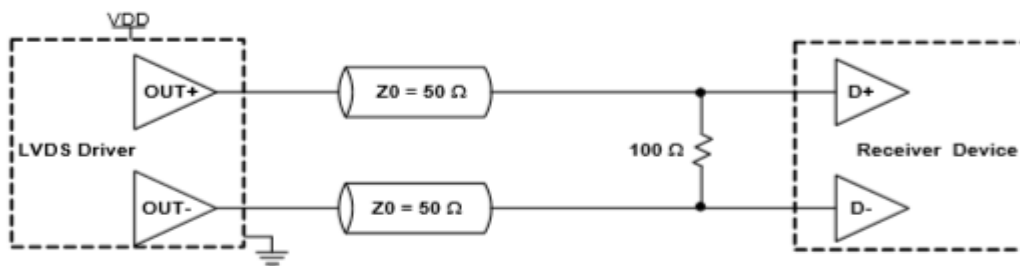


Figure 6. LVDS Single Termination (Load Terminated)



有源晶振编号

公司名称	产品型号	外形尺寸	晶片封装	常温频差	高低温频差	温度范围	工作电压	输出波形	频率
HDE	SP: 普通晶体振荡器 VC: 压控晶体振荡器 TC: 温补晶体振荡器 VT: 压控温补振荡器 OC: 恒温晶体振荡器 OV: 恒温压控振荡器	F14: DIP14 F08: DIP8 M75 : SMD7050 M53 : SMD5032 M32 : SMD3225 M22 : SMD2520 M21: SMD2016 M11: SMD1612	1: 一次封装 2: 二次封装	C: $\pm 100\text{ppm}$ D: $\pm 50\text{ppm}$ E: $\pm 25\text{ppm}$ F: $\pm 10\text{ppm}$ G: $\pm 5\text{ppm}$ H: $\pm 2.5\text{ppm}$ I: $\pm 1\text{ppm}$ J: $\pm 0.5\text{ppm}$ K: $\pm 0.1\text{ppm}$ L: $\pm 0.05\text{ppm}$ M: $\pm 0.01\text{ppm}$ N: $\pm 0.005\text{ppm}$	C: $\pm 100\text{ppm}$ D: $\pm 50\text{ppm}$ E: $\pm 25\text{ppm}$ F: $\pm 10\text{ppm}$ G: $\pm 5\text{ppm}$ H: $\pm 2.5\text{ppm}$ I: $\pm 1\text{ppm}$ J: $\pm 0.5\text{ppm}$ K: $\pm 0.1\text{ppm}$ L: $\pm 0.05\text{ppm}$ M: $\pm 0.01\text{ppm}$ N: $\pm 0.005\text{ppm}$	B: $0 \sim +50^\circ\text{C}$ C: $0 \sim +70^\circ\text{C}$ D: $-10 \sim +60^\circ\text{C}$ E: $-20 \sim +70^\circ\text{C}$ F: $-30 \sim +80^\circ\text{C}$ G: $-40 \sim +85^\circ\text{C}$	5: 5.0V 3: 3.0V 2: 2.5V 1: 1.8V	C: CMOS S: SINE P: LVPECL L: LVDS T: TTL	***.***
例如: HDE-SPF141EEE3C-65.536MHz									
HDE	SP	F14	1	E	E	E	3	C	65.536
公司简称	普通晶体振荡器	DIP4	一次封装	常温频差: $\pm 25\text{ppm}$	高低温频差: $\pm 25\text{ppm}$	$20 \sim +70^\circ\text{C}$	3.3V	Cmos 输出	65.536MHz
表示: 武汉恒达高科电子有限公司生产, 普通晶体振荡器, DIP14 一次封装 常温频差: $\pm 25\text{ppm}$; 高低温频差 $\pm 30\text{ppm}$; 温度范围: $-20 \sim +70^\circ\text{C}$; 工作电压: 3.3V; 输出波形为 CMOS 频率: 65.536MHz									