

VME series connectors

Product Introduction

- Designed to match with VME64 and VME64x electronic module
- High reliable hyperboloid wire spring socket contact
- Can be applied to strong vibration harsh environment
- Connector has Faraday electric cage structure and realizing ESD (electrostatic discharge) protection
- P0/J0 module support 3.125Gbps high speed differential transmission
- RF contacts operating frequency range: 0~18GHz
- Application: aviation, aerospace, electronic, weapon
- Execution enterprise standard: Q/21EJ873

Main technical performance

[Mechanical]

- Shell: High-strength aluminum alloy
- Contact: Copper alloy with gold plating
- Insulator: LCP
- Leading pin: Stainless steel
- Sinusoidal vibration: frequency: 0~2000Hz, acceleration: 15G
- Random vibration: PSD(power spectral density): $0.2g^2/Hz$, rms value 16.4G
- Shock: 100G
- Endurance: 4000 cycles

[Environmental]

- Operating temperature: $-55^{\circ}C \sim +125^{\circ}C$
- High temperature lifetime: $125^{\circ}C$, 250h
- Relative humidity (RH): $40 \pm 2^{\circ}C$, 90~98%
- Salt spray: 48h

[Electrical]

- Low frequency contact (apply to P1/J1, P2/J2 module)
 - Current rating: 2.5A
 - Withstanding voltage: 1000V
 - Insulation resistance: $\geq 5000 M\Omega$
 - Contact resistance: $\leq 20 M\Omega$
- Differential contact (apply to P0/J0 module)
 - Transmission rate: 3.125 G bps
 - Characteristic impedance: $100 \pm 15 \Omega$
 - Current rating: 1A
 - Withstanding voltage: 1000V
 - Insulation resistance: $\geq 5000 M\Omega$
 - Contact resistance: $\leq 20 M\Omega$
- High frequency contact (common use)
 - Frequency range: 0~18 GHz
 - Characteristic impedance: $50 \pm 1 \Omega$
 - Insert Loss: when operating frequency f is 5MHz~18GHz, $\leq 0.06 \sqrt{f}$ dB

- VSWR: $\leq 1.15 + 0.01 f$
- Phase deviation: $\leq \pm 5^\circ$
- Contact resistance: Center contact 5M Ω ; Outer contact 3M Ω

Ordering Information

Basic series	VME64	T	434	M	E0
Connector type	T—Plug (installed with pin) Z—Receptacle (installed with socket)				
Contact layout code	434, 320T7, 114T30 (See the detailed information in Contact layout)				
Contact type	M—Pin F—Receptacle				
Termination type ¹⁾	E0—Elbow PCB soldering, pin length 3.12 D0—Straight PCB soldering, pin length 7.35				

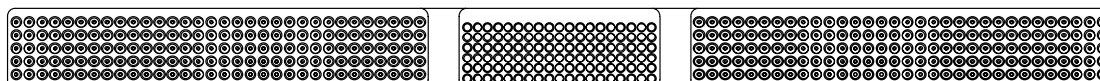
Remark:

1) Terminating length can be designed according to the customers' needs.

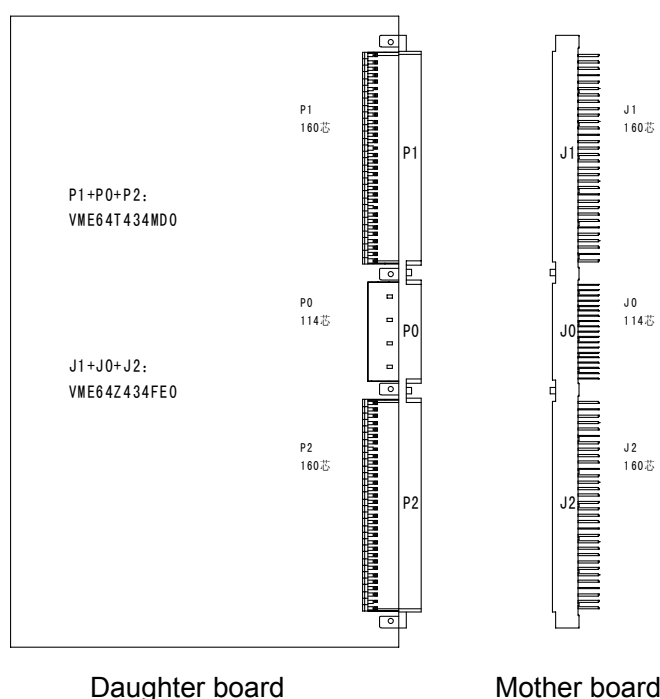
Contact layout (front view of the mating surface)

VME series products usually consists of three modules, plug for P0, P1, P2 module, receptacle for J0, J1, J2 module, through the different configuration of three modules to realize the different contact arrangement and combination. Following is some commonly used contact arrangement and combination. If these can't meet customers' demand, we can develop new contact arrangement according to user requirements.

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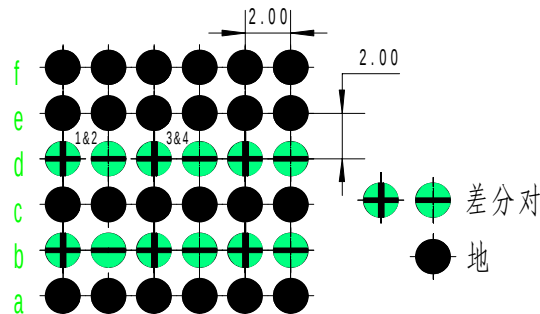


[Connector configuration]



Differential pair layout

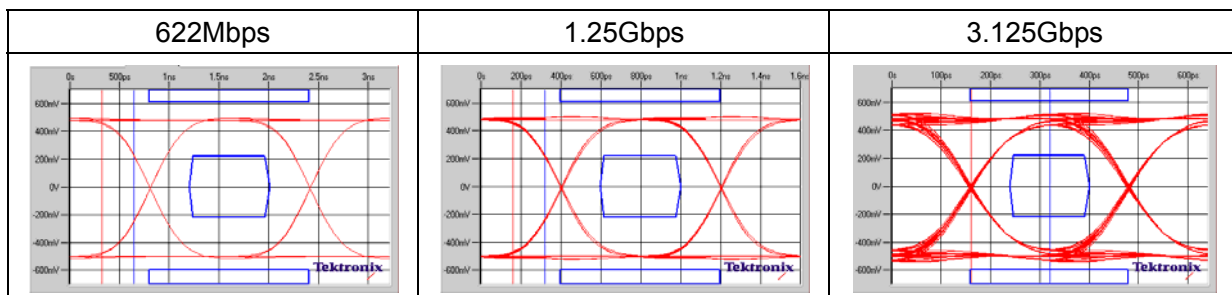
P0/J0 module is high speed signal area, which can install differential contact pairs, insert gap 2mm, differential characteristic impedance 100Ω, transmission rate 3.125Gbps; See the following differential pair layout:



[Eye pattern diagram]

According to the above recommended differential pairs arrangement, connector eye diagram got under the 622 MBPS, 1.25 G bps and 3.125 G bps transmission rate as shown in the diagram below.

Test input voltage is 1 v, in three transmission rate 50% in the next cycle period of output voltage are more than 434 mV.



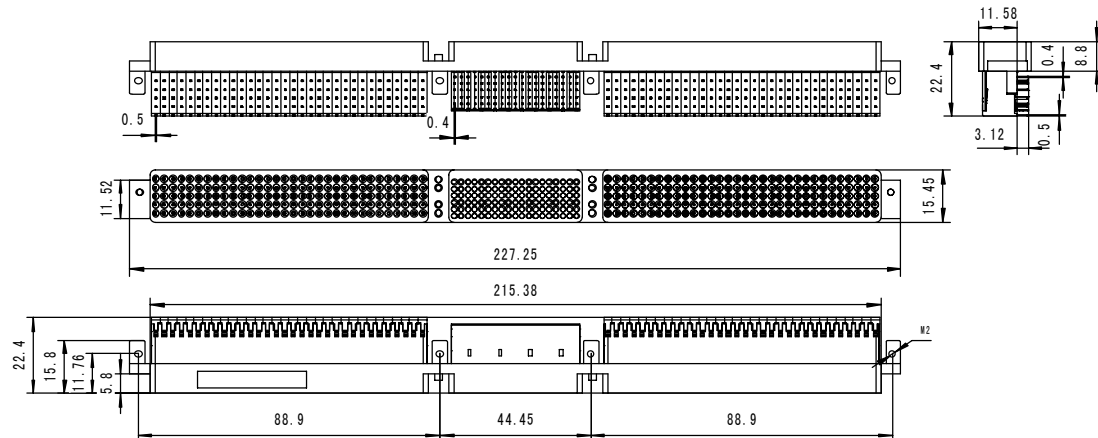
[Transmission delay and delay deviation]

Cavity code	a	b	c	d	e
Transmission delay (ps)	68	90	112	134	156
delay deviation (ps)	22	22	22	22	22
Max data rate	3.125Gbps				

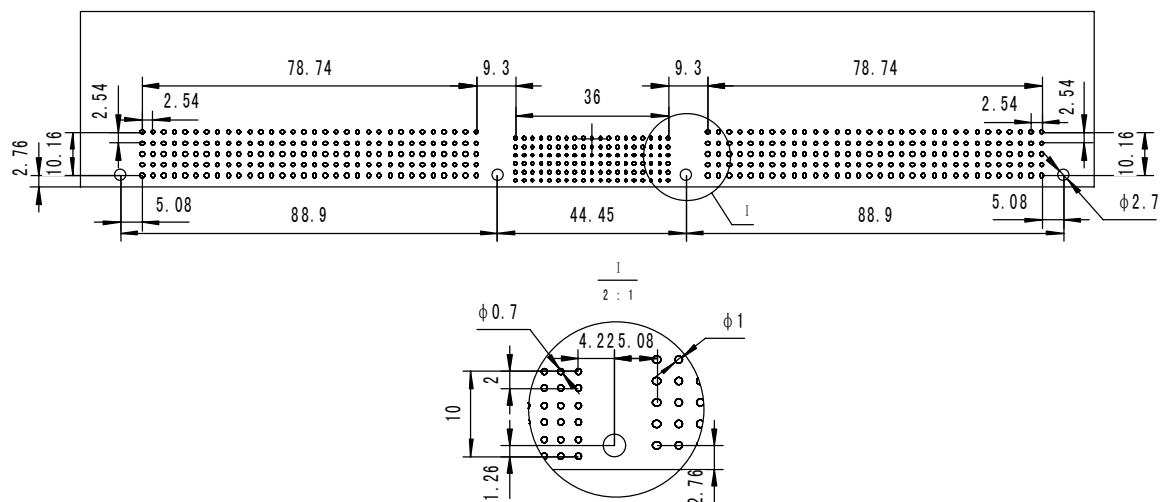
PCB cut-out dimension

[Plug]

The picture takes VME64T434ME0 for example.

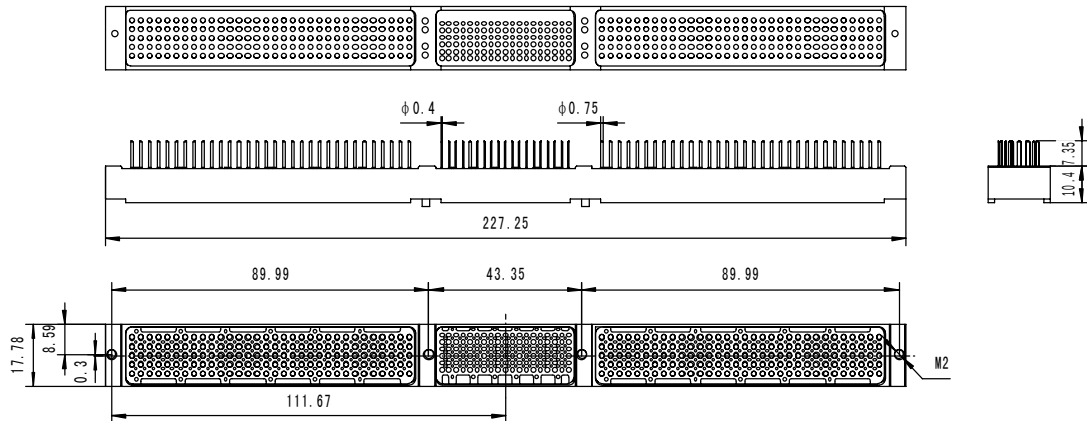


PCB cut-out dimension

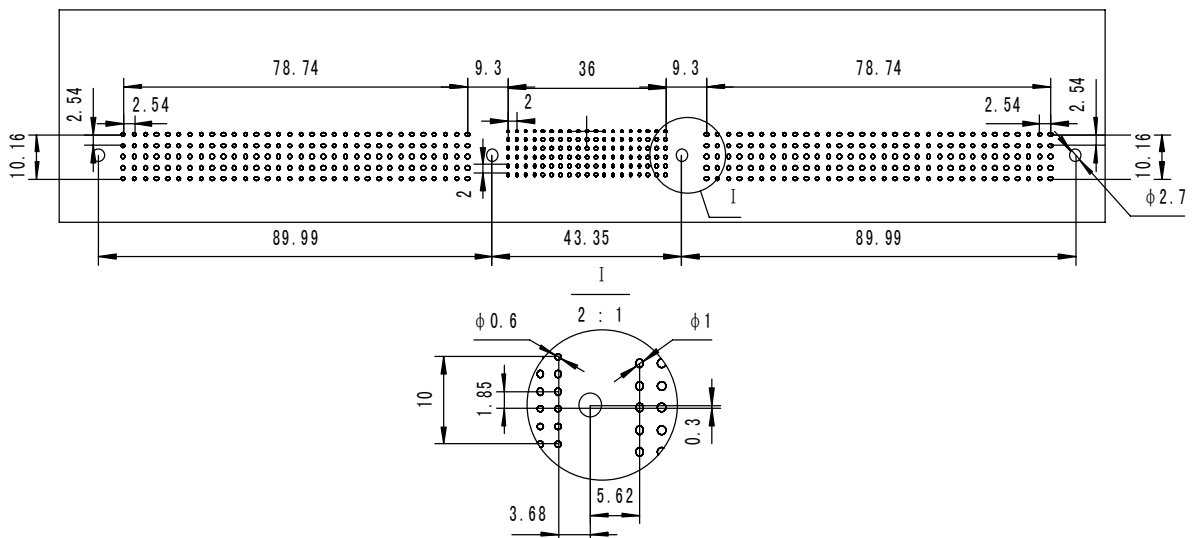


[Receptacle]

The graphical representation takes the VME64Z434FD0 for example.



PCB cut- out dimension



[Dimension after mated]

