



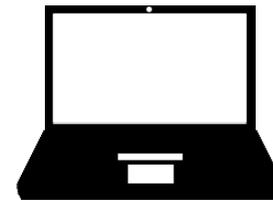
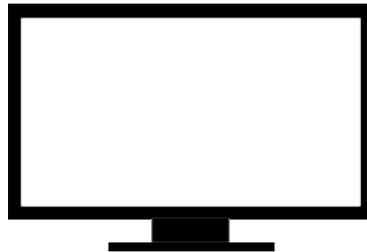
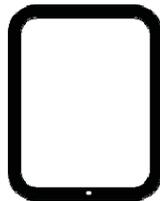
SM3 Series M.2 (NGFF) Connector

Connector Training Module

Application Examples

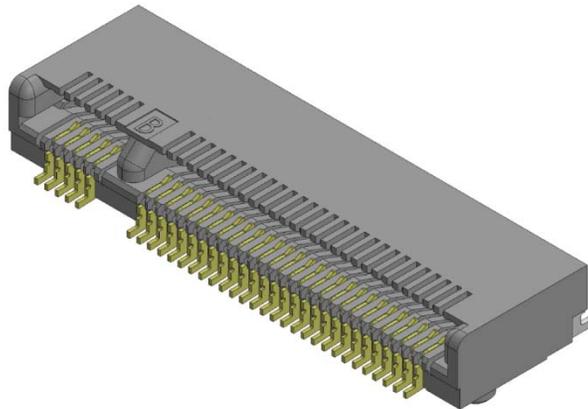
Solid state drives and wireless card interfaces in:

- PC/tablets
- Smart meter
- TV and set top box
- Other wireless ultra portable devices



SM3 Series Features

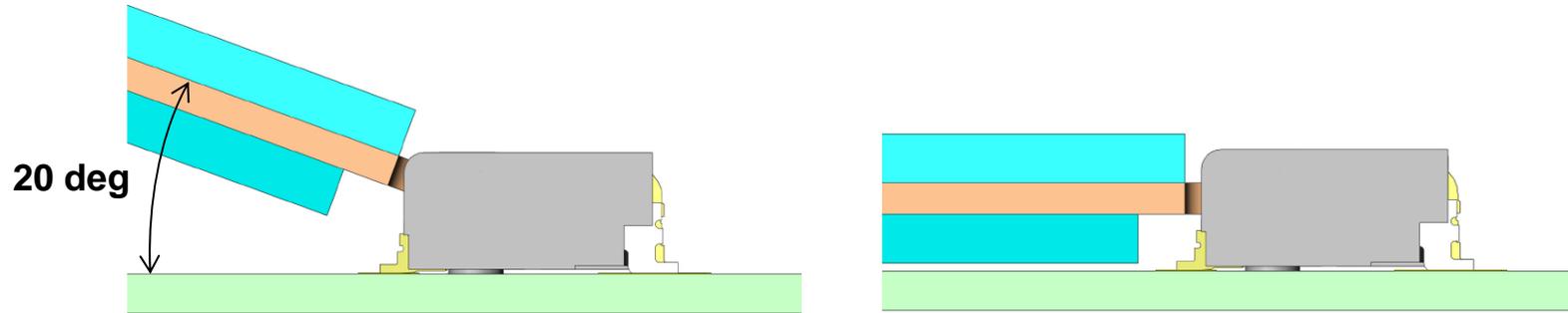
New alternative for PCIe Mini and Half Mini cards and connectors



- JAE's SM3 Series is a small size card edge connector for mobile devices.
- Significant space savings compared to previous technologies in both board space and height.
- Standard interface for solid state drives (SSD) and various wireless cards supporting Wi-Fi®, NFC, Bluetooth®, GNSS, WWAN, etc.
- Multiple heights and key options are available to accommodate various card types.
- Pb-Free, halogen-free product

Card Insertion method

3.1 and 4.1mm height (double-sided cards)



2.15mm height (single-sided cards)



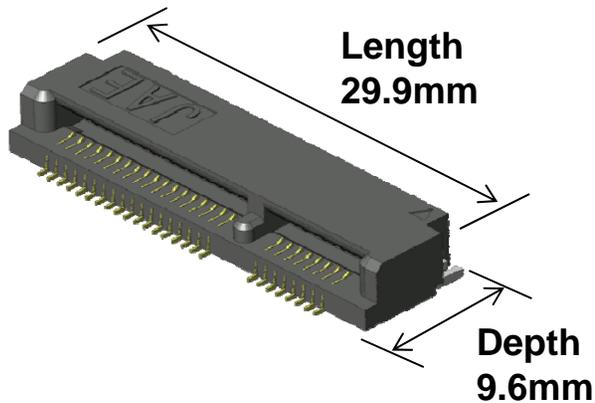
M.2 and Mini Card Comparison

PCI Express Mini Card (MM60 Series)

Height: 4.0, 5.9mm
52 contacts, 0.8mm pitch

Host Interfaces

- PCI Express
- USB

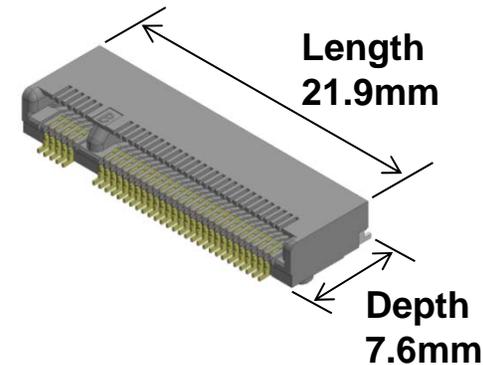


M.2 (SM3 Series)

Height: 2.15, 3.1, 4.1mm
67 contacts, 0.5mm pitch

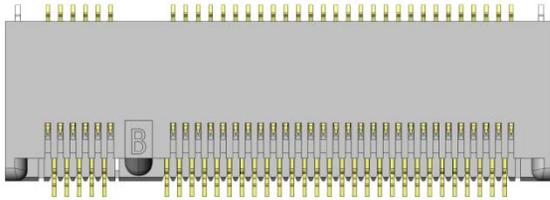
Host Interfaces

- PCI Express®
- USB
- SATA
- SDIO
- SSIC
- UART
- I2C
- DisplayPort
- PCM/I2S

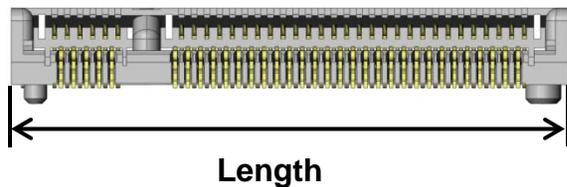


General Specifications

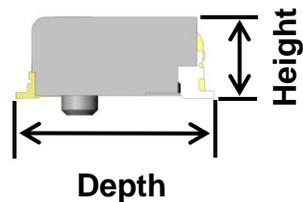
Top View



Front View



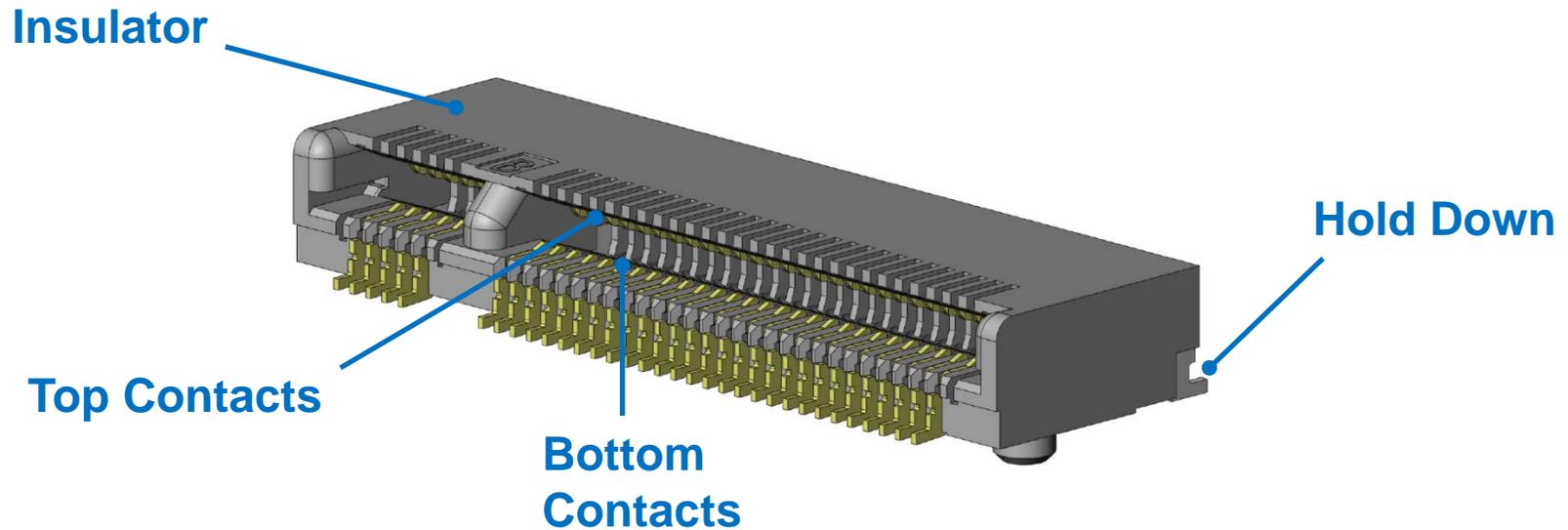
Side View



No. of Contacts	67
Pitch	0.5mm
Height	2.15, 3.1, 4.1mm
Length x Depth	21.9mm x 7.6mm
Applicable Card Thickness	0.8mm±0.08mm
Contact resistance	50m Ω max (initial)
Dielectric Withstanding Voltage	AC 300Vr.m.s (for 1 minute)
Operating Temperature Range	-40 to +80 °C
Rated Current	0.5A per pin
Rated Voltage	50 VAC
Mating Durability	60 cycles
Coplanarity	0.1mm max.

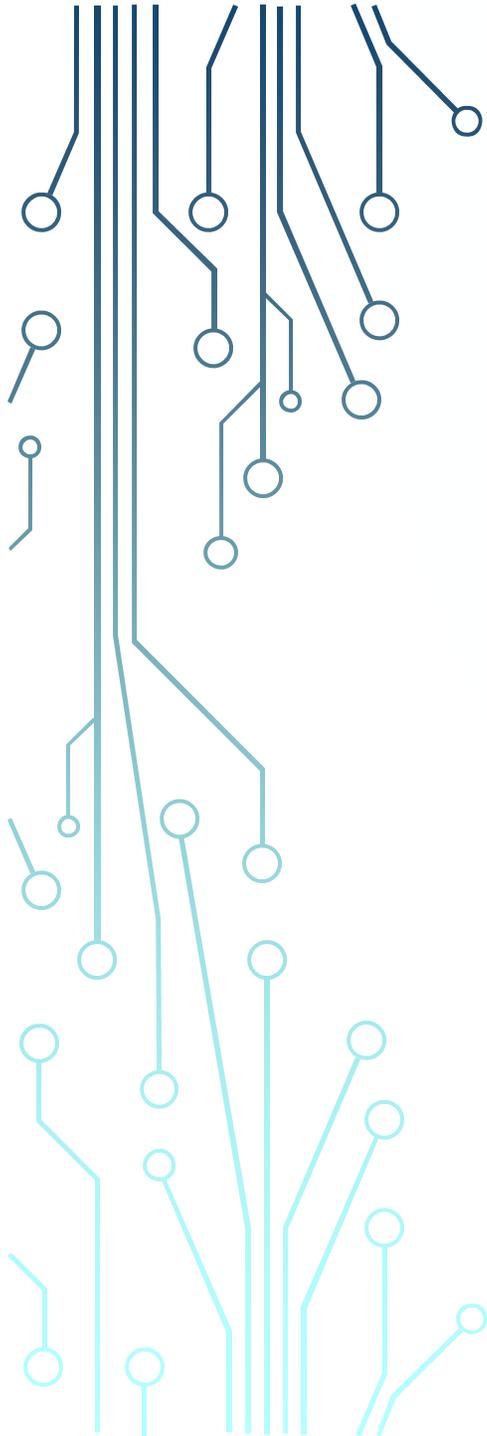
Materials and Finishes

Component	Material/Finish
Contact (2 Types)	Copper alloy/ Au Plating Over Ni Contact area: 0.13 μ m min. Au Plating Terminal/SMT area: Au Flash Plating
Hold Down	Copper alloy/ Tin Plating Over Ni
Insulator	Heat-resistant resin (Black, Halogen-free)



Summary

- The SM3 series is a natural alternative to the existing PCI Express mini card connectors
- The SM3 series allows the card to be inserted at a slight angle
- The M.2 connector houses more contacts in a significantly smaller package
- The SM3 series has a contact pitch of 0.5 mm



Technology to Inspire Innovation

JAE