

SmartSKEDD Connectors

IDT meets SKEDD



Evolution meets Revolution [IDT meets SKEDD]

SMART IDT
SKEDD
Direct Plug-in

Unparalleled:
Reversible Arbitrary Direct
Mating with the PCB in IDT

| by Lumberg only



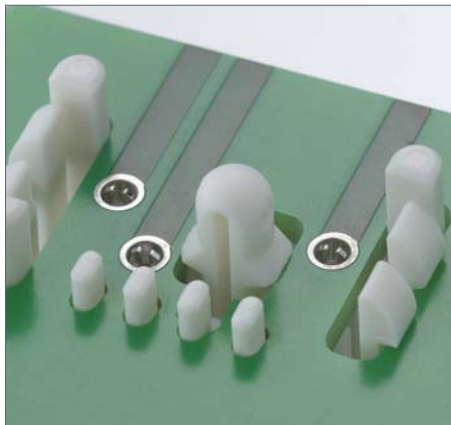
Evolution meets revolution: While the direct connector mating on the edge of a printed circuit board is one of our focal domains, we are now introducing a new category of connectors that eclipses them all: The direct connector for arbitrary mating on the printed circuit board. With a multiple plug-in and plug-out option, soldering is no longer required. And it comes of course with Insulation Displacement Technology.

SKEDD makes this possible. The individual contact comprises two symmetrical contact tongues which, when inserted into a plated-through hole in the PCB, retract. The contact pressure forces from the two tongues then create a steadfast mechanical-electrical connection inside the hole – no need for soldering.

Connectors can mate and lock without having to use tools, for total convenience when mounting entire sub-assemblies. This empowers completely new designs since the connectors can mate right in the center of a printed circuit board. Or even on the reverse.

Here, reversible mating also facilitates for the first time the simple exchange of components, as is required, for example, during servicing.

In combination with Insulation Displacement Technology, which draws on all advantages offered by automated cable assembly and vouches for the efficient production of large quantities, our unparalleled solution that literally centers your ideas on the PCB is really smart – or simply: SmartSKEDD.





Retaining Forces Times 2 [Secondary Locking]

Extra Robust and Reliable: Snap-fit Plus Pin Locking

We listened to you and understood exactly what you need:

- an extremely stable SmartSKEDD connector design
- lightweight, tool-free handling
- space-saving assembly of the connector on the printed circuit board
- protected contacts to safely transport the connectors

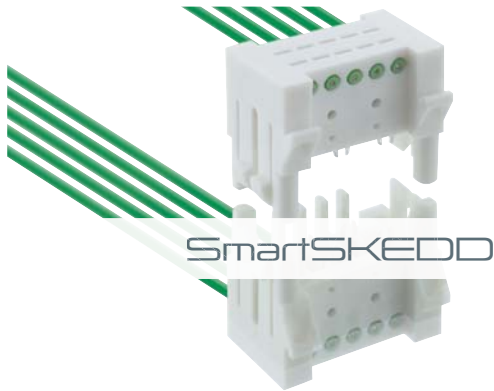
SmartSKEDD therefore comes in two model versions right from the start. Both direct connector types share exceptional durability:

Three solid pins on each housing guarantee secure positioning and prevent mismatching. And there is more: Each side of the connector features two snap-fits that lock the connector tightly onto the

PCB. To release the connector, simply press on this primary lock. The retaining forces are here alone roughly more than 50 N.

If a secondary lock is what you need – as do many of our Automotive clients for the LV 214 standard – or your application just needs that extra measure of retention, the second SmartSKEDD model features a pre-assembled central pin which increases the retaining force of the entire system to more than 90 N. Again, this assembly is tool-free: It is delivered and plugged in 'lock' position.

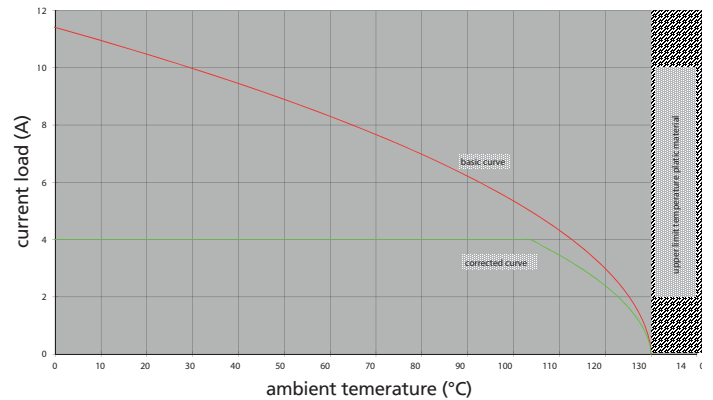
This central pin provides added support, holding the connector reliably in place. During servicing, simply use a screwdriver to turn to the „release“ position the pin from its 'lock'.



SmartSKEDD

Derating Curve 7335...

4 pole with wire cross section 0.38 mm², mated on FR4 70 μm Cu



733500

SmartSKEDD direct connector, insulation displacement technology, with keying pins, positioning spigot and double locking on the printed circuit board
pitch 2.5 mm



733520

SmartSKEDD direct connector, insulation displacement technology, with keying pins, positioning spigot and locking on the printed circuit board
pitch 2.5 mm



	733500	733520
POLES	3-11	3-13
TEMPERATURE RANGE¹	-40 °C/+130 °C	-40 °C/+130 °C
WERKSTOFFE		
Housing ²	PBT, halogen-free, V0 acc. to UL 94	PBT, halogen-free, V0 acc. to UL 94
Locking Pin ²	PBT, halogen-free, V0 acc. to UL 94	-
Contact Spring	CuSn, silver-plated	CuSn, silver-plated
MECHANICAL DATA		
Insertion force/contact	≤ 3 N	≤ 3 N
Withdrawal force/contact	≥ 3 N	≥ 3 N
Retaining force/locking	≥ 90 N	≥ 50 N
Mating with	printed circuit board 1.6 ± 0.14 mm	printed circuit board 1.6 ± 0.14 mm
CONNECTABLE CONDUCTORS INSULATION DISPLACEMENT TERMINAL		
Section ³	0.22-0.38 mm ²	0.22-0.38 mm ²
Insulation diameter	≤ 1.6 mm	≤ 1.6 mm
ELECTRICAL DATA		
Contact resistance	≤ 5 mΩ	≤ 5 mΩ
Rated current	4 A at T _{amb} 85 °C	4 A at T _{amb} 85 °C
Rated voltage ⁴	50 V AC	50 V AC
Material group ⁴	I (IEC)/0 (UL) (CTI ≥ 600)	I (IEC)/0 (UL) (CTI ≥ 600)
Creepage distance	0.6 mm	0.6 mm
Clearance	0.6 mm	0.6 mm
Insulation resistance	> 1 GΩ	> 1 GΩ
¹	upper limit temperature (housing) RTI (electr.) acc. UL-Yellow-Card	
²	material halogen-free, GWFI 850°C (0.40 mm), GWIT 775°C (0.40 mm)	
³	cable construction and approved cables on request	
⁴	acc. to IEC 60664/DIN EN 60664/CTI, UL-Classification acc. ANSI/UL 746A	



New Technology [IDT meets SKEDD]

IDT over SKEDD – so much more than just a superior combination for a genuine connector with, e.g. with 2.5 or 5 mm spacing.

This new technology offers superior benefits even for your individual components. Whether board-to-board or wire-to-board – direct plug-in and plug-out connections anywhere on the PCB's center or reverse are a novelty. The advantages of this process – not only because of the skipped soldering step – in serial processing are quite considerable.

**LV214 test procedures
successfully passed.**

Advantages „IDT over SKEDD“

■ Direct mating

Cost savings of material and process:

- One corresponding part less:
 - less installation space and weight
- Eliminated:
 - one electrical interface
 - one contact resistance
 - one potential source of defects
- One mounting process less
- One press-fit or soldering process less:
 - no thermal stress for the printed circuit board
 - no add-ons as required for press-fitt, due to high insertion forces
- No added technical requirements for the FR4 PCB

■ Reversible

- Designed for a minimum five mating cycles
- No special tools required
 - easy manual connector plug-in and plug-out using a screwdriver
- Easy exchange of complete components possible, e.g. for maintenance and servicing
- Disconnect feature supports sustainable recycling

■ Positioning

- Arbitrary mating: anywhere, even on the reverse of the PCB
 - new design possibilities for applications, e.g. a PCB can be used for different device models if only all holes are provided accordingly for SmartSKEDD
 - If a PCB's topside is fitted to capacity with components, the connector can mate from the reverse.

■ Insulation displacement technology (IDT)

- Discrete and flat ribbon cables possible
- Highly-automated production of cable harnesses
- Harness makers can rely on over 30 years of know-how in proven IDT assembly
- Cable assembly can be processed on tried and tested knuckle joint presses, semi-automatic

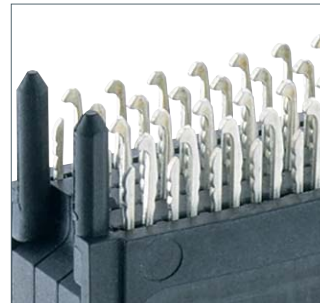
and fully-automatic machines

- zero-defect quality during cable assembly
- assembly machines have testing stations which eliminate all defects
- highly-efficient cable assembly for any lot size

■ Housing

- Connector with positioning pin and snap-fits
 - secure positioning and protection against mismatching on the PCB
 - durable and secure retention on the PCB
- Keying options via keying pins
 - zero-defect quality during device assembly
 - protection against mismatching prevents accidental mix-ups and faulty connections
- Halogen-free material
- Glow wire resistant material

- **SKEDD technology is also predestinated for customized board-to-board, wire-to-board and component-to-board applications.**



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