

# Application Drives

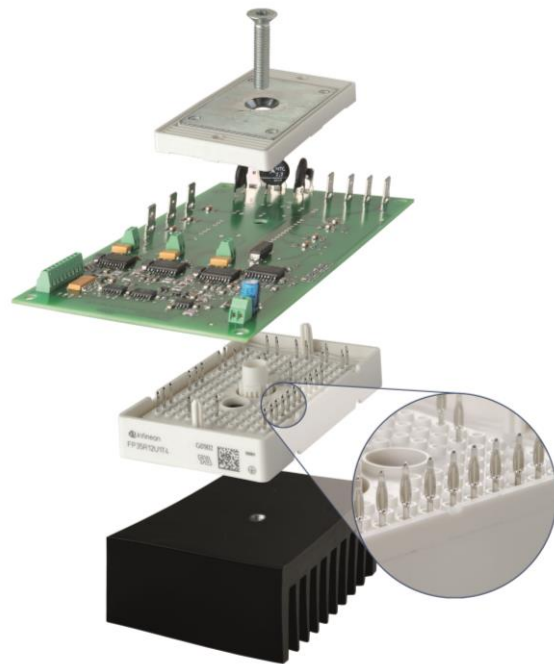
PCIM 2014, Nuremberg



# Infineon Smart IGBT Modules – Main Features

## Innovative Package Design "Self-Acting" PressFIT Technology:

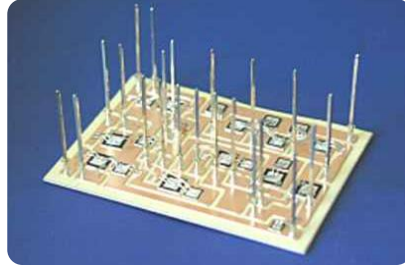
- Smart PIM and Smart PACK 650V / 1200V available
- PressFIT Pins with Best-in-Class FIT-Rates
  - Reliable, Gas-tight, cold-welded connection of Module Pins and PCB
  - No negative effects by corrosive environments
- Duplex Frame Concept for rugged mounting
  - Ceramic Cracks during mounting impossible
- Constant pressure Base Plate to Heat Sink defined by design independent from Screw Torque
- Mounting possible on both sides of standard FR4 PCBs



### EasyPACK 1B



**3-level leg up to 50A**



**Typical DCB**

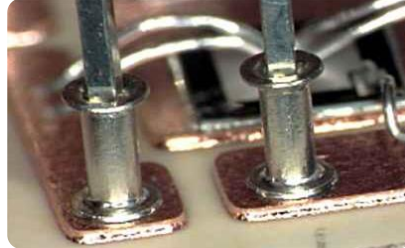
### Benefits

- Compact design
- Terminal flexibility
- Pre-Inserted Clamps
- Vibration robust
- No Base Plate

### EasyPACK 2B



**3-level leg up to 200A**



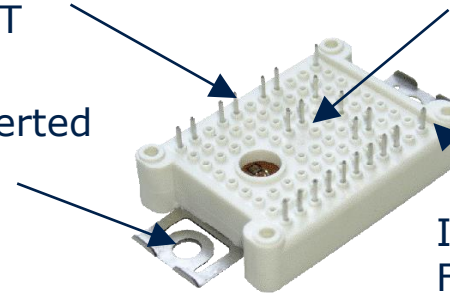
**Reliable Pin-Rivet Connection**

Terminal Pins  
Solder or  
PressFIT

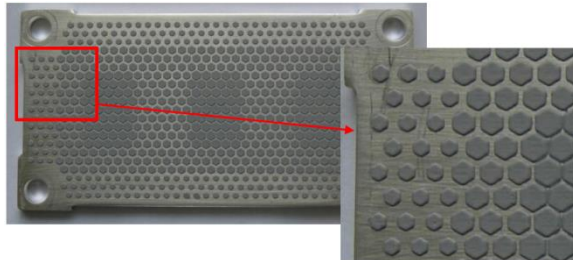
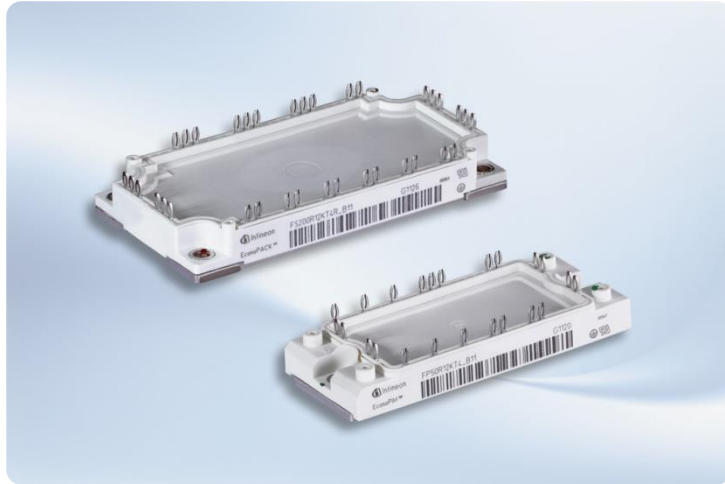
89 / 165 Pin Grid  
for max. flexibility

Pre-inserted  
Clamps

Isolating Plastic  
Frame



# Econo 2 / Econo 3 Package with Infineon Thermal Interface Material (TIM)



## Best in Class Thermal Interface due to ...

- ... Improvement of thermal resistance up to 15%
- ... proven long term stability
- ... optimized material pattern related to the module package and internal design

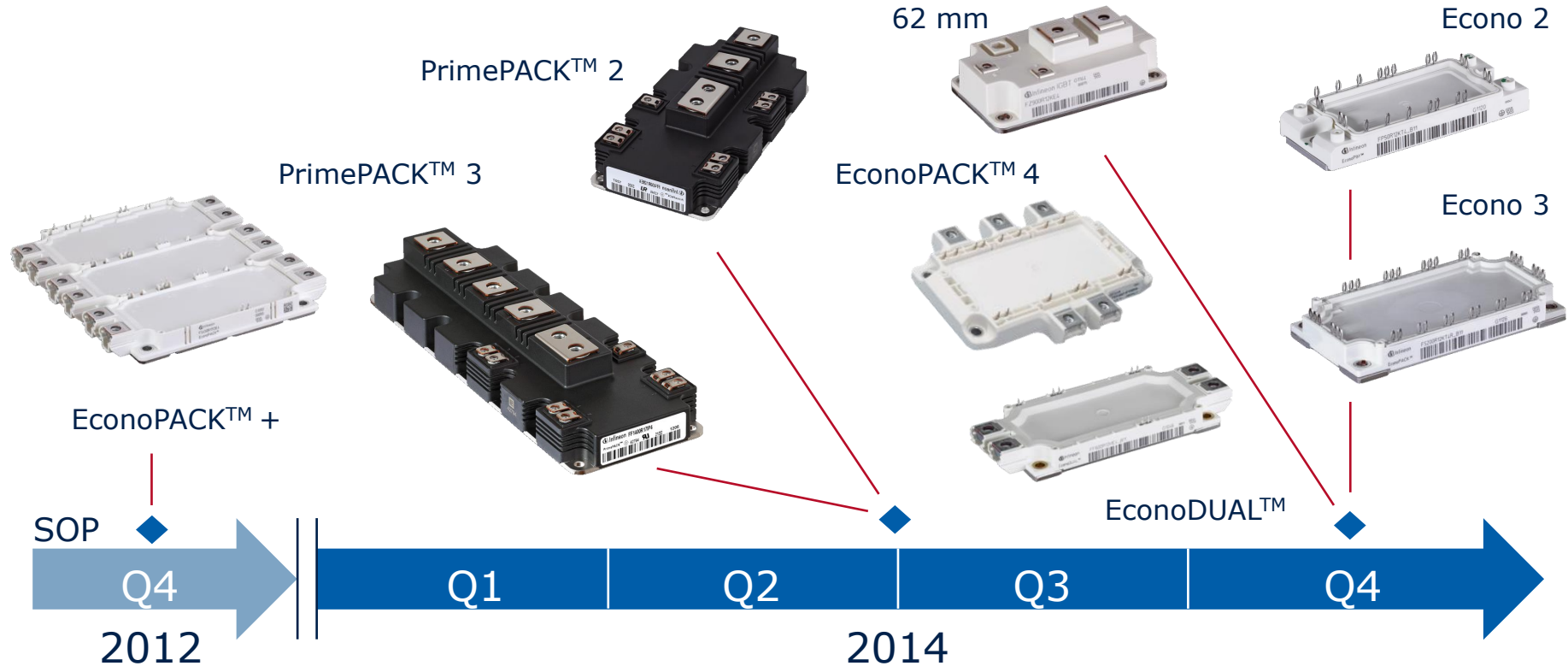
## High Reliability

- Increased lifetime by reduced thermal stress
- Constant performance during the whole module lifetime

## Lowers your Production Effort

- Pre-applied material
- Combination with Infineon PressFIT Technology

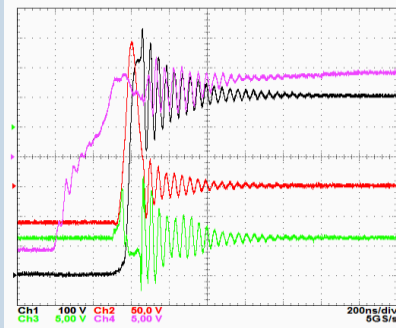
# Infinion Thermal Interface Material (TIM) Timeline Roll-Out



# EconoDUAL™ 3 FF600R12ME4C with Enhanced Diode Softness

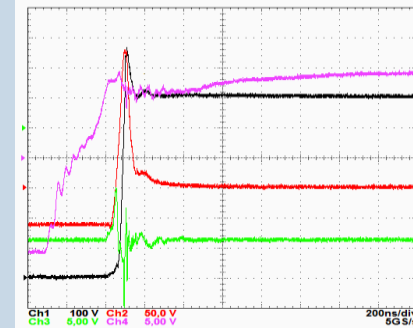


## FF600R12ME4 standard



$R_g = 0,91\Omega$

## FF600R12ME4C – soft FWD







$R_g = 0,91\Omega$

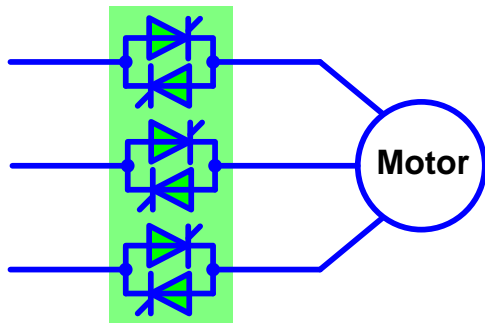
- New emitter controlled 4 Diode with improved softness
- Dramatically reduced Turn on Losses
- Improved EMI Behavior
- Available now



# New High Power Modules

	FZ2400R12HP4	FZ3600R17HP4	FF1400R17IP4	FZ750R65KE3
	 IHM	 IHM	 Prime PACK™	 IHV
Standard Package	✓	✓	✓	✓
CTI (>400)	✓	✓	✓	✓
High DC Stability	✓	✓	✓	✓
Excellent Robustness	✓	✓	✓	✓
Superior Power Cycle Capability	✓	✓	✓	✓
Operating Temperature Range	-40...+150°C	-40...+150°C	-40...+150°C	-50...+125°C

# Low and Medium Voltage Soft Starters



## Customer Benefits

- High overload capability
- High reliability and lifetime
- Broad portfolio

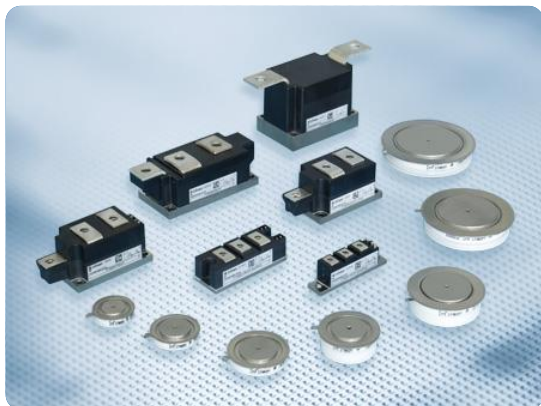
## Product Highlights

- **New:** 1.6kV thyristor-thyristor modules

- TT 60N16SOF
- TT120N16SOF
- TT140N16SOF
- TT175N16SOF

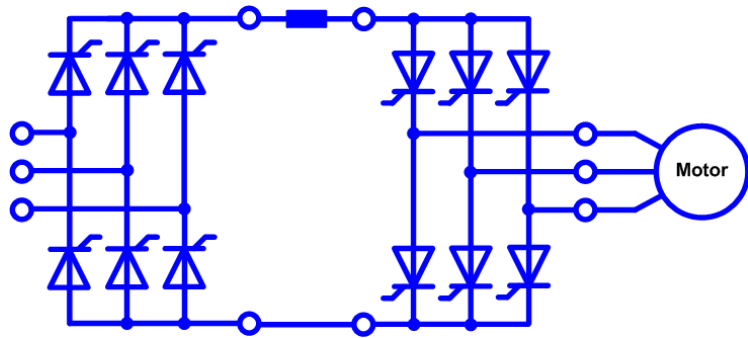


- Special designed 6.5kV thyristor disc device family
  - T281N65TOF, T571N65TOF, T1060N65TOF, T1620N65TOF
- Special designed 9.5kV thyristor disc
  - T600N95TOH





# Load Commutated Inverter (LCI)



## Customer Benefits

- High reliability
- High surge current
- Highest voltage stability



T1551N52TOH  
T1851N70TOH

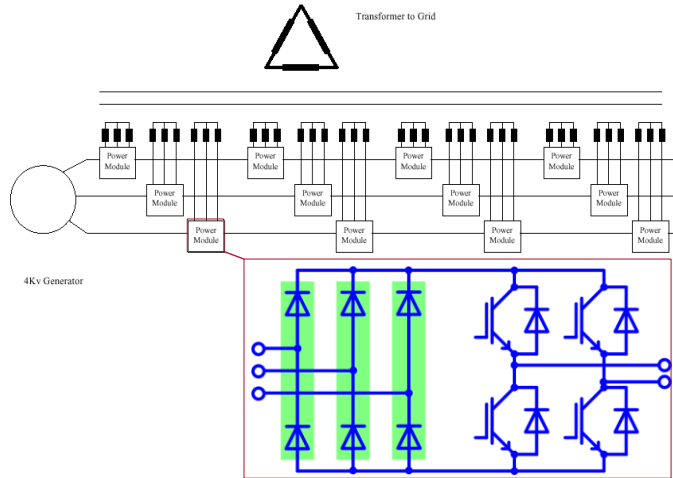


T3441N52TOH  
T2551N80TOH



T3011N80TOH

# Medium Voltage Drives Cell Inverters with PowerBLOCK Modules



## Customer Benefits

- Short on fail
- High overload capability
- High reliability and Lifetime



DD160N22K  
DD171N18K

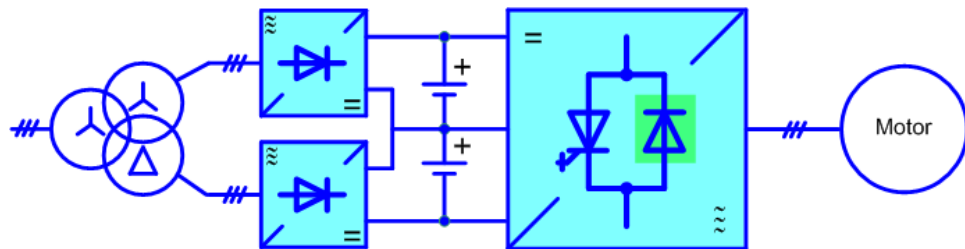


DD231N26K  
DD360N22K  
DD380N16K



DD540N26K  
DD700N22K  
DD710N16K **New**

# Freewheeling- and Clamping Diodes for IGCT / IGBT



## Customer Benefits

- Freewheeling or clamping diode for IGCT / Presspack IGBT
- Low inductive connection to IGCT / Presspack IGBT possible
- Extreme soft switching behavior at low on-state losses



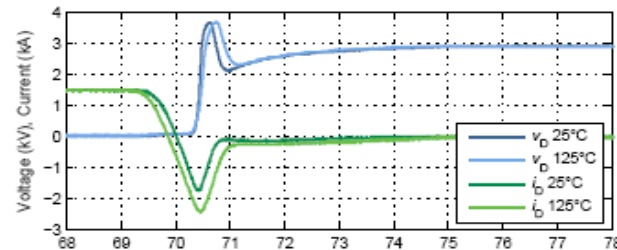
D911SH45T  
D1031SH45T  
D931SH65T



D1301SH45T  
D1331SH45T  
D1961SH45T



D1821SH45T  
D1951SH65T





# ENERGY EFFICIENCY MOBILITY SECURITY

Innovative semiconductor solutions for energy efficiency, mobility and security.

