



Infineon Technologies Bipolar

## Product Brief

# Thyristors & Diodes

Bipolar power semiconductors from Infineon Technologies Bipolar are used in the most varied applications in a power range from a few kilowatts up to several gigawatts. Besides the standard phase-control thyristors and rectifier diodes, our product scope also includes diodes for fast-switching applications. For nearly all AC/DC power systems, we provide discs in ceramic housing as well as PowerBLOCK modules in various thyristor and diode configurations.

Light-triggered thyristors (LTT) are ceramic disc devices with the advantage of easy triggering using laser diodes and optic fibers. This ensures that there is no insulation problem between the load and trigger unit. Fewer electronic components with a high potential and internal protection functions – BoD, dv/dt and forward recovery protection (FRP) – ensure higher reliability.

PowerBLOCK modules are offered in several configurations containing thyristor and diode switches in a voltage range from 1200 V to 4400 V and currents of 60 A up to 1100 A. The modules are designed and assembled in highly reliable pressure contact and also with solder bond technology. They are offered in several dual and single device topologies for almost all phase control applications.

Presspack thyristors and diodes are offered in a voltage range of 200 V to 9500 V and a current range of 270 A to more than 8000 A. Besides diode disc types for rectifier applications, we also offer a range of discs as fast-switching diodes as well as soft and fast recovery freewheeling diodes for IGCT and press-pack IGBT switches. In addition, we offer a broad range of diodes and thyristors with stud and flat base housing as well as welding diodes

### Key benefits

- > Outstanding power density
- > Over 40 years in service without failure
- > Deep knowledge of your systems and environment
- > Specific requirements and individual additional functions for your systems
- > Fast and extensive technical support

### Applications

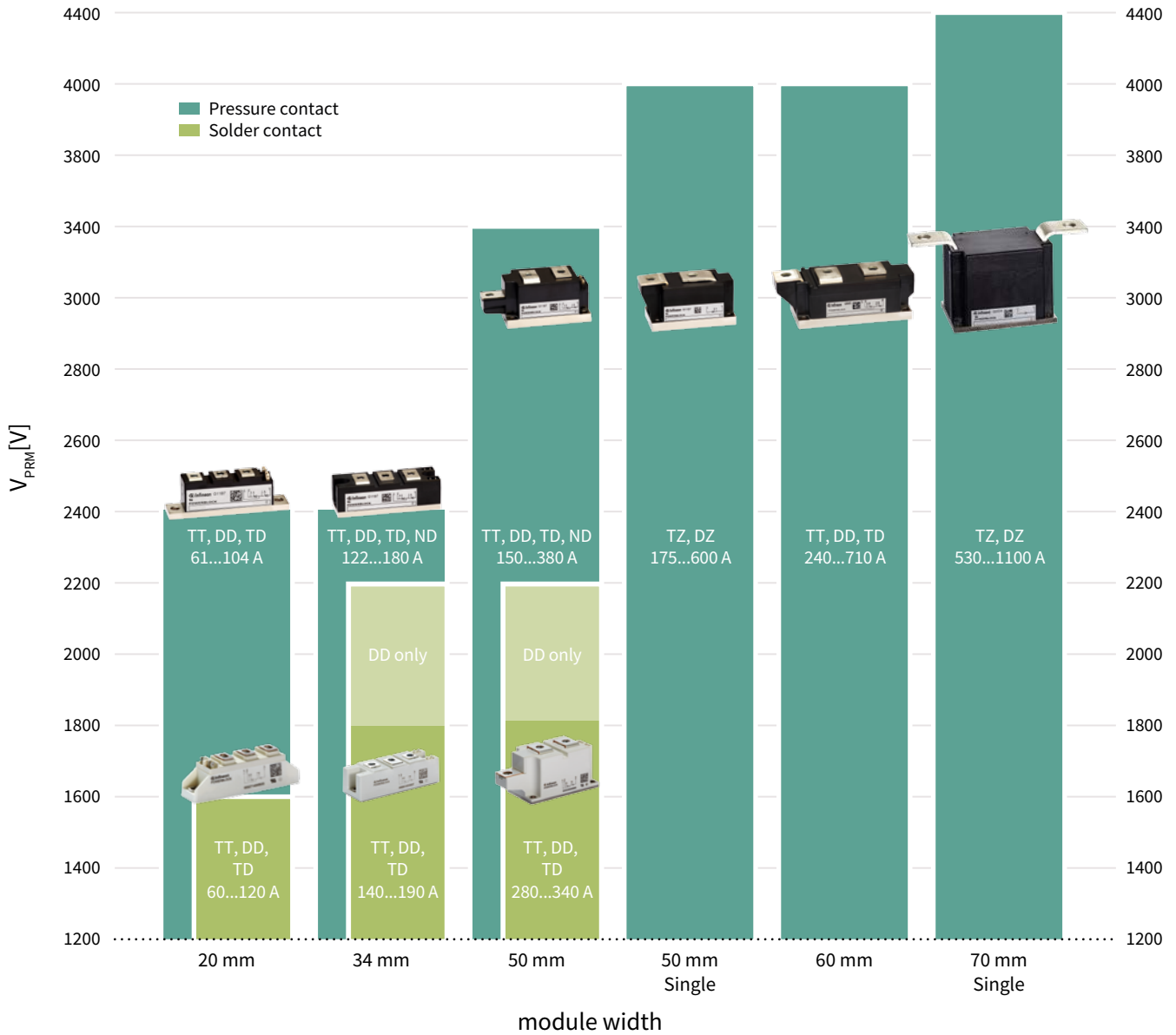
- > Industrial AC and DC drives
- > Soft starters
- > Rectifiers and static by-passes in UPS
- > Wind turbines
- > Welding
- > Electrolysis
- > High voltage direct current (HVDC) transmission systems
- > Flexible AC transmission systems (FACTS)
- > Freewheeling and clamping diodes for GTO, IGCT and presspack IGBT inverters

Type	Voltage $V_{RRM}$	Current $I_{TAV}$
Ceramic thyristor/diode discs	200 V up to 9500 V	100 A up to 8320 A
PowerBLOCK modules	400 V up to 4400 V	60 A up to 1100 A



# Thyristors & Diodes

## Overview PowerBLOCK modules



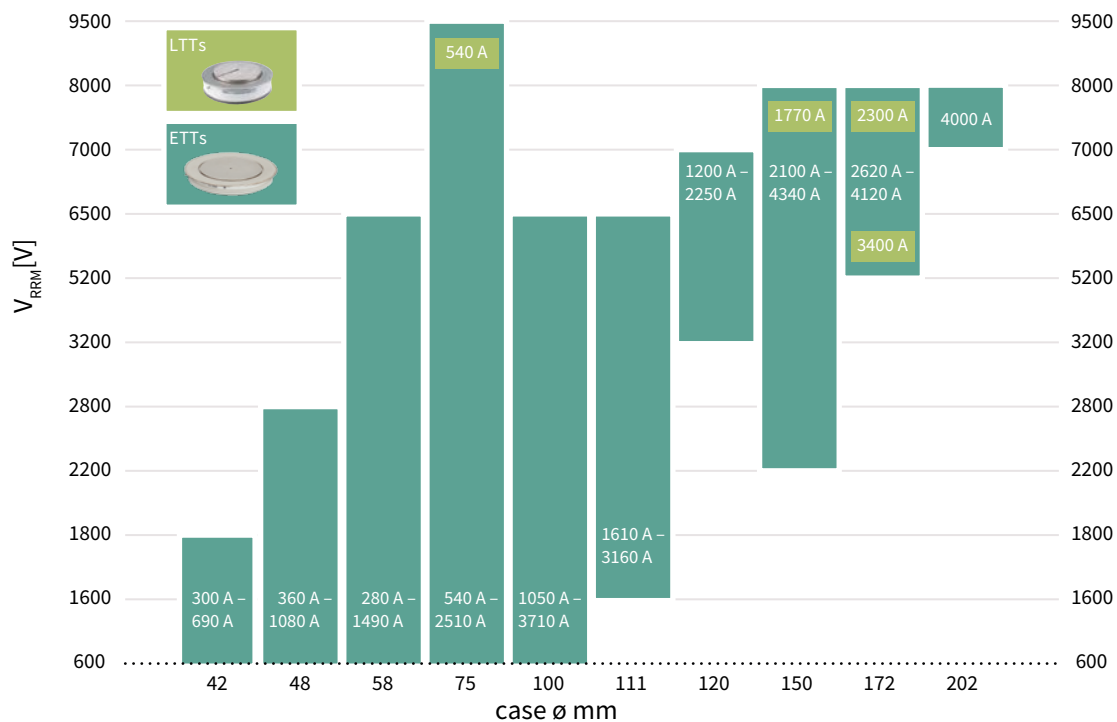
### Available module configurations

Infineon shortcut	Description	Circuit
TT	SCR/SCR type	
TD	SCR/diode type	

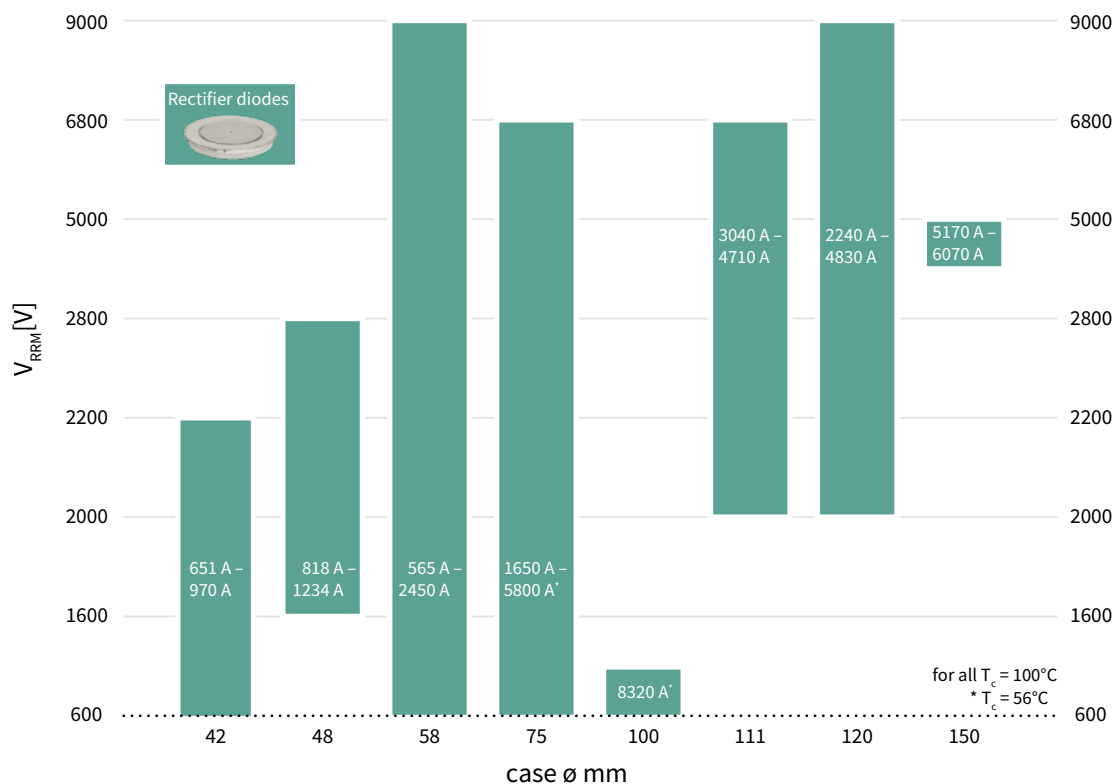
Infineon shortcut	Description	Circuit
DD	diode/diode type	
DZ ND	single diode type	
TZ	single thyristor type	

# Thyristors & Diodes

## Overview phase-control thyristors in disc housings

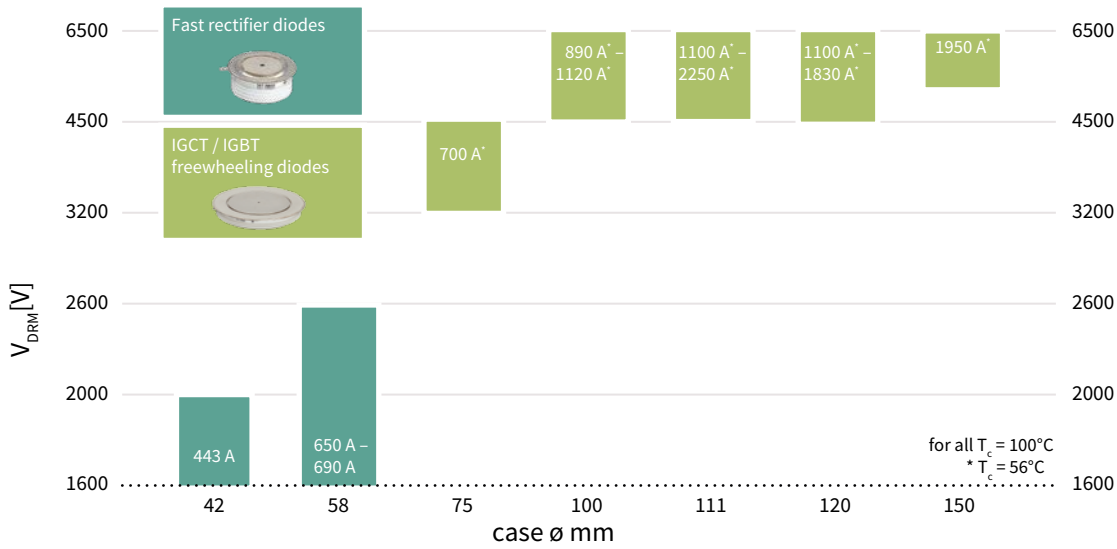


## Overview diodes in disc housings



# Thyristors & Diodes

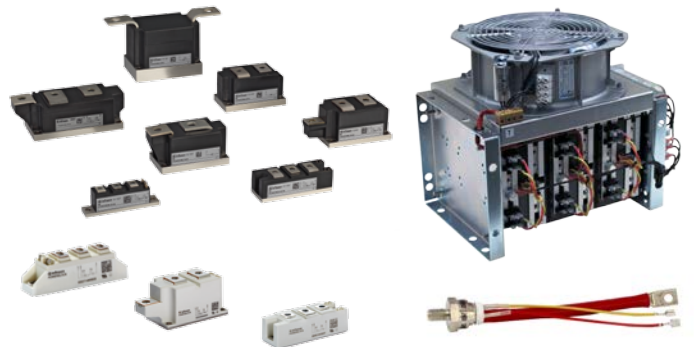
Overview IGCT/IGBT freewheeling diodes and fast rectifier diodes in disc housings



## Discs



## Modules and assemblies



[www.infineon-bipolar.com](http://www.infineon-bipolar.com) | [www.ifbip-shop.com](http://www.ifbip-shop.com)

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