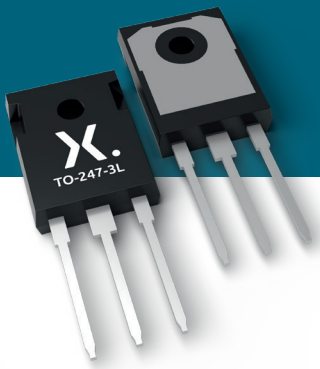

650 V IGBTs

for industrial applications

Addressing the growing demand for efficient, high-voltage power conversion and motor drives, Nexperia's IGBTs feature a robust and cost-effective carrier stored trench-gate (CSTBT) advanced field-stop (FS) construction. Delivering high ruggedness reliability and enhanced inverter power density for industrial applications.

Design Benefits

- Low conduction and switching losses
- High ruggedness reliability
- Stable and tight parameters for easy parallel operation
- Maximum junction temperature of 175 °C
- Fully rated as a Soft Fast Reverse Recovery Diode
- 5 µs short circuit capability (For M3)
- Enabling outstanding system efficiency and reliability

Key technical features

- Ultra low diode Vf
- Ultra low IGBT turn off loss
- Trade off for total power loss

Key applications

- Industrial motor drives – particularly 5 <> 20 kW (20 kHz) servo motors
  - robotics, elevators, operating grippers, in-line manufacturing
- Power inverters
  - Uninterruptible Power Supply (UPS)
  - photovoltaic (PV) strings
  - EV-charging
- Induction heating, welding

nexperia

650 V products

Products in red are in development

Type name	Voltage / Current @ Tc=100oC	IGBT type	Copak Diode rating	SCWT	Package	Release date
NGW40T65M3DFP	650 / 40	MS	full	5µs	 TO-247-3L	June 2024
NGW50T65H3DFP	650 / 50	HS				
NGW75T65H3DF	650 / 75	HS				
NGW30T65M3DFP	650 / 30	MS				Q1 2025
NGW50T65M3DFP	650 / 50	MS				
NGW60T65M3DFP	650 / 60	MS				
NGW75T65M3DFP	650 / 75	MS				
NGW40T65H3DFP	650 / 50	HS				
NGW75T65H3DFP	650 / 75	HS				

Date of release:
July 2024