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IGBT Modules

Power Cycling with the latest generation IGBT die

The Dynex manufacturing plant is a vertically integrated facility with device design, wafer fabrication, packaging, qualification and testing available on site.

The range of power modules includes half bridge, chopper, dual, single and bi-directional switch configurations covering voltages from 1200V to 6500V and currents from 250A to 3600A.

Through initial concept to full production, Dynex support customer requirements to provide enhanced and reliable device outlines to meet specific demands.

Using our in-house design team, Dynex continue to develop processes and designs to utilise the latest techniques to improve cooling, current output, lifetime and reliability.

Great emphasis is placed on low inductance power bus bar designs, enabling the modules to function under fast switching transients such as, those of next generation Trench Gate IGBT's and SiC MOSFET.

Modules are available utilising chips that have been optimised for switching or static losses depending on the application.

Key Features
(Module Dependant)

- High DC stability via advanced edge termination design and passivation
- High short circuit capability wide SCSOA
- Self-limiting short circuit current
- Trench gate generation 5 IGBT
- Temperature conditions from -40/ - 50°C to +150°C
- Low switching losses
- T(vj op) = 150°C
- AlSiC Baseplate for increased thermal cycling capability
- Package design with CTI > 600
- Isolated base plate
- High isolation voltage available

Applications

- High reliability inverters
- Motor controllers
- Traction drives
- High power converters
- Renewable energy power conversion
- Power charging equipment
- High reliability inverters
- Different circuit topologies (half bridge, single switch, chopper)
- Electric vehicles

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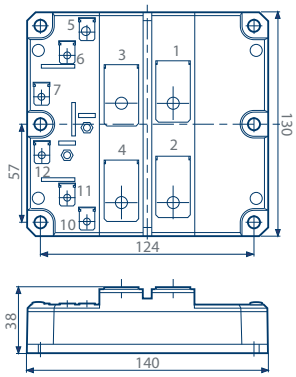
Module Outlines and Circuit Configurations

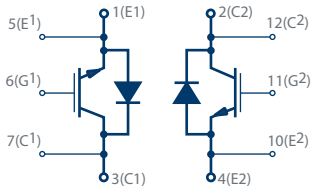
All dimensions shown in mm unless stated otherwise.

Package Type: D

Nominal weight: 1000g/1600g

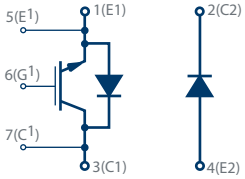


Dual Switch - DDM/S



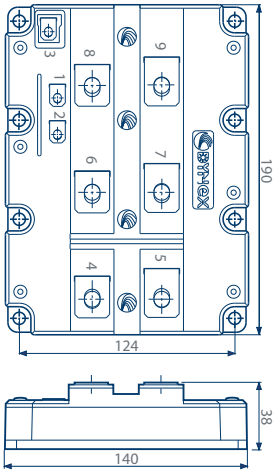
C^1 and C^2 - Aux Collector
E^1 and E^2 - Aux Emitter
G^1 and G^2 - Gate

Chopper switch - DCM/S

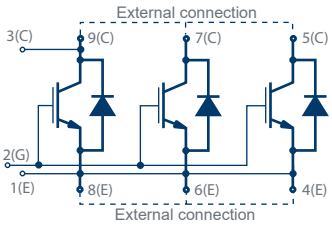


Package Type: E

Nominal weight: 1700g



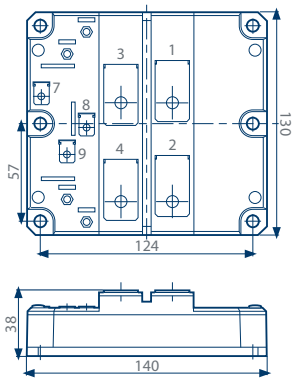
Single Switch - ESM



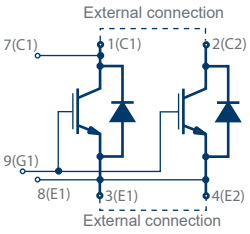
3 - Aux Collector
2 - Gate
1 - Aux Emitter

Package Type: F

Nominal weight: 1000g/1600g



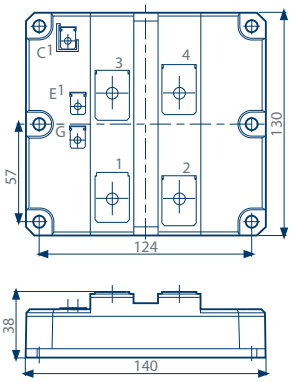
Single Switch - FSM/S



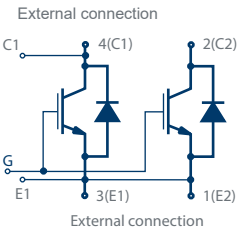
C^1 - Aux Collector
E^1 - Aux Emitter
G^1 - Gate

Package Type: N

Nominal weight: 1000g



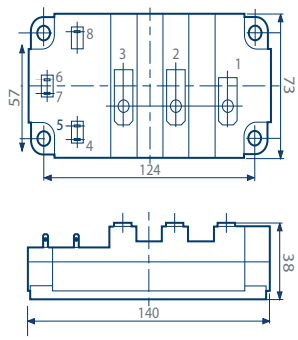
Single Switch - NSM



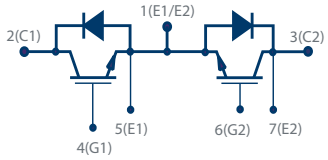
C^1 - Aux Collector
E^1 - Aux Emitter
G - Gate

Package Type: P

Nominal weight: 500/750g

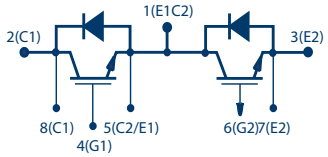


Bi-directional Switch - PBM



C^1 - Aux Collector
E^1 and E^2 - Aux Emitter
G^1 and G^2 - Gate

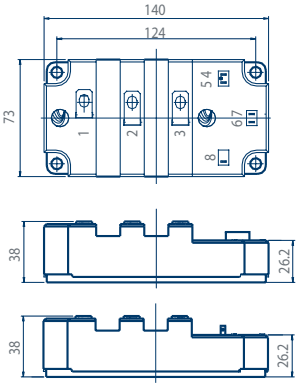
Half Bridge - PHM



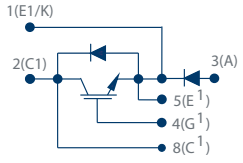
C^1 - Aux Collector
E^1 and E^2 - Aux Emitter
G^1 and G^2 - Gate

Package Type: P

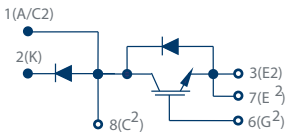
Nominal weight: 500g



Chopper High Side - PKM



Chopper Low Side - PLM



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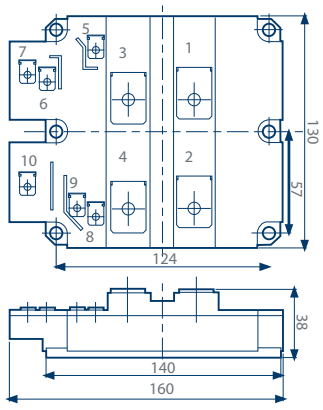
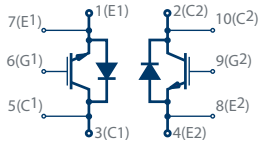
Package Type: G

Nominal weight: 1000g

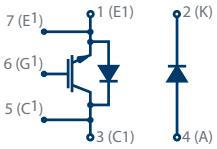


Dual Switch - GDM



C^1 and C^2 - Aux Collector
E^1 and E^2 - Aux Emitter
G^1 and G^2 - Gate

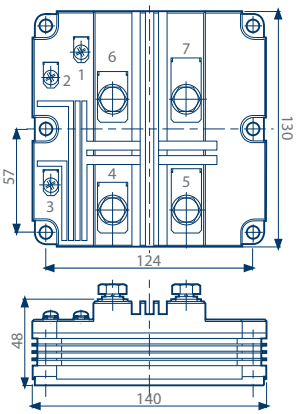
Chopper Switch - GCM



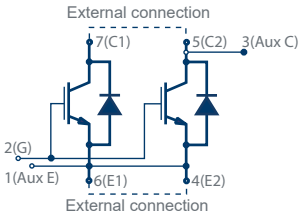
C^1 and C^2 - Aux Collector
E^1 and E^2 - Aux Emitter
G^1 and G^2 - Gate

Package Type: X

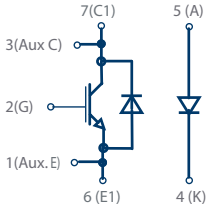
Nominal weight: 1100g



Single Switch - XSM

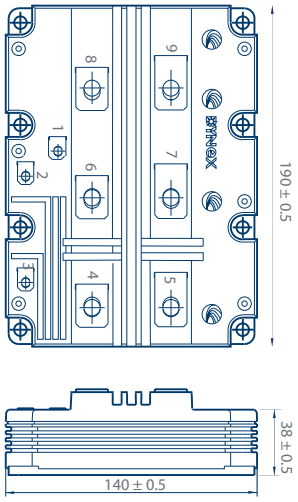


Chopper Switch - XCM

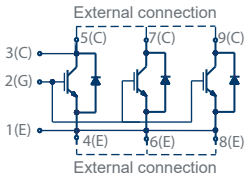


Package Type: A

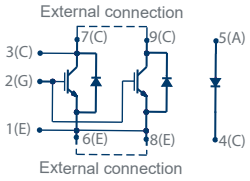
Nominal weight: 1700g



Single Switch - ASM



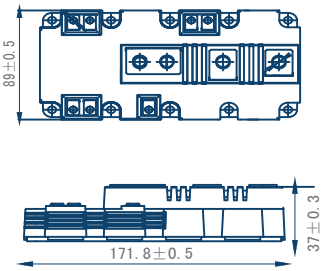
Chopper Switch - ACM



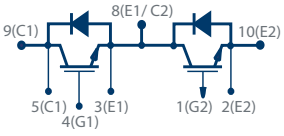
3 - Aux Collector
2 - Gate
1 - Aux Emitter

Package Type: H2

Nominal weight: 900g



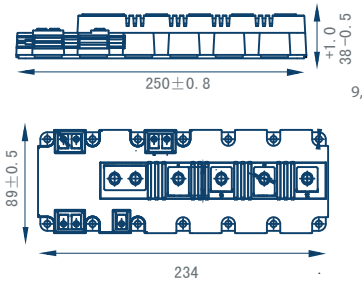
Half Bridge - H2HM



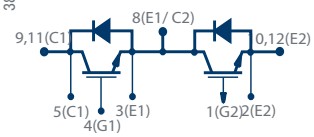
C^1 - Aux Collector
E^1 and E^2 - Aux Emitter
G^1 and G^2 - Gate

Package Type: H1

Nominal weight: 1700g



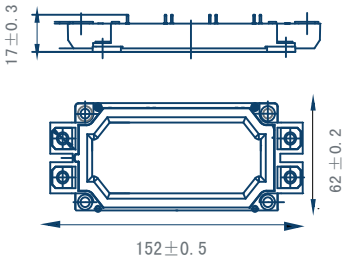
Half Bridge - H1HM



C^1 - Aux Collector
E^1 and E^2 - Aux Emitter
G^1 and G^2 - Gate

Package Type: M1

Nominal weight: 345g



Half Bridge - M1HM