



# FPF2C8P2NL07A

## F2, 3-phase, 3-level NPC module with Press-fit / NTC

### General Description

Fairchild's new inverter modules provide low conduction and switching loss as well. And Press-Fit technology provides simple and reliable mounting. These modules are optimized for the applications such as solar inverter and UPS where a high efficiency and robust design is needed.

### Electrical Features

- High Efficiency
- Low Conduction and Switching Losses
- Field Stop IGBT for Inner and Outer Switch
- STEALTH™ Diode for Path Diode
- Built-in NTC for Temperature Monitoring

### Mechanical Features

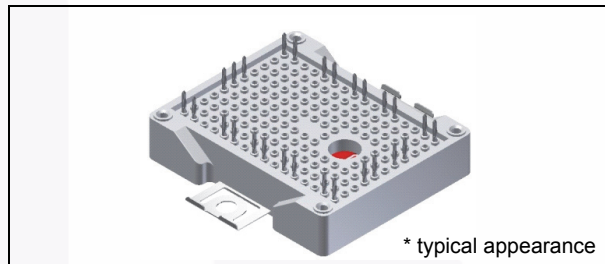
- Compact Size : F2 Package
- Press-fit Contact Technology
- Al<sub>2</sub>O<sub>3</sub> Substrate with Low Thermal Resistance

### Applications

- Solar Inverter
- UPS

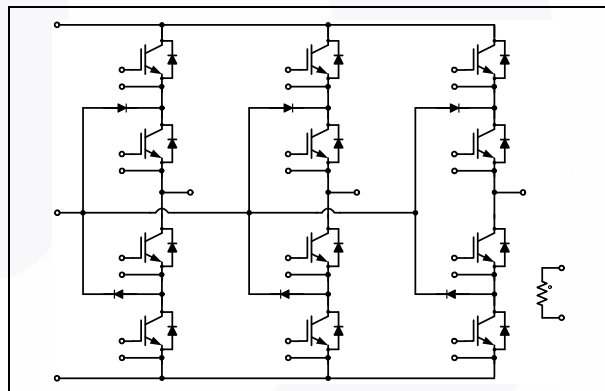
### Related Materials

- AN-4167: Mounting Guideline for F1 / F2 Modules with Press-Fit Pins



\* typical appearance

Package Code: F2



Internal Circuit Diagram

### Package Marking and Ordering Information

Device	Device Marking	Package	Packing Type	Quantity / Tray
FPF2C8P2NL07A	FPF2C8P2NL07A	F2	Tray	14

FPF2C8P2NL07A - F2, 3-phase, 3-level NPC module with Press-fit / NTC

**Absolute Maximum Ratings**  $T_C = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Description	Rating	Units
<b>Outer IGBT(Q1, Q4, Q5, Q8, Q9, Q12)</b>			
$V_{CES}$	Collector-Emitter Voltage	650	V
$V_{GES}$	Gate-Emitter Voltage	$\pm 20$	V
$I_C$	Continuous Collector Current @ $T_C = 80^\circ\text{C}$ , $T_{Jmax} = 175^\circ\text{C}$	30	A
$I_{CM}$	Pulsed Collector Current limited by $T_{Jmax}$	60	A
$P_D$	Maximum Power Dissipation @ $T_C = 25^\circ\text{C}$	135	W
$T_J$	Operating Junction Temperature	- 40 to + 150	$^\circ\text{C}$
<b>Inner IGBT(Q2, Q3, Q6, Q7, Q10, Q11)</b>			
$V_{CES}$	Collector-Emitter Voltage	650	V
$V_{GES}$	Gate-Emitter Voltage	$\pm 20$	V
$I_C$	Continuous Collector Current @ $T_C = 80^\circ\text{C}$ , $T_{Jmax} = 175^\circ\text{C}$	50	A
$I_{CM}$	Pulsed Collector Current limited by $T_{Jmax}$	100	A
$P_D$	Maximum Power Dissipation @ $T_C = 25^\circ\text{C}$	174	W
$T_J$	Operating Junction Temperature	- 40 to + 150	$^\circ\text{C}$
<b>Outer - Inner IGBT Series Connection</b>			
SCWT	Short Circuit Withstand Time	$V_{DC} = 300\text{ V}$ , $V_{GE} = 15\text{ V}$ $T_C = 25^\circ\text{C}$	4 $\mu\text{S}$
<b>Diode</b>			
$V_{RRM}$	Peak Repetitive Reverse Voltage	650	V
$I_F$	Continuous Forward Current @ $T_C = 80^\circ\text{C}$ , $T_{Jmax} = 175^\circ\text{C}$	15	A
$I_{FM}$	Maximum Forward Current	30	A
$P_D$	Maximum Power Dissipation @ $T_C = 25^\circ\text{C}$	100	W
$T_J$	Operating Junction Temperature	- 40 to + 150	$^\circ\text{C}$
<b>Module</b>			
$T_{STG}$	Storage Temperature	- 40 to + 125	$^\circ\text{C}$
$V_{ISO}$	Isolation Voltage @ AC 1 min.	2500	V
Iso_Material	Internal Isolation Material	$\text{Al}_2\text{O}_3$	
$T_{MOUNT}$	Mounting Torque	2.0 to 5.0	Nm
Creepage	Terminal to Heat Sink	11.5	mm
	Terminal to Terminal	6.3	mm
Clearance	Terminal to Heat Sink	10.0	mm
	Terminal to Terminal	5.0	mm