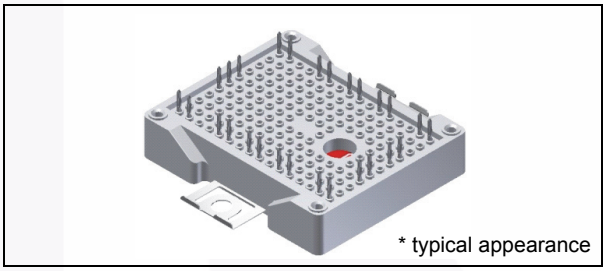
Mar. 2015

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.



Package Code: F2

Electrical Features

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

Mechanical Features

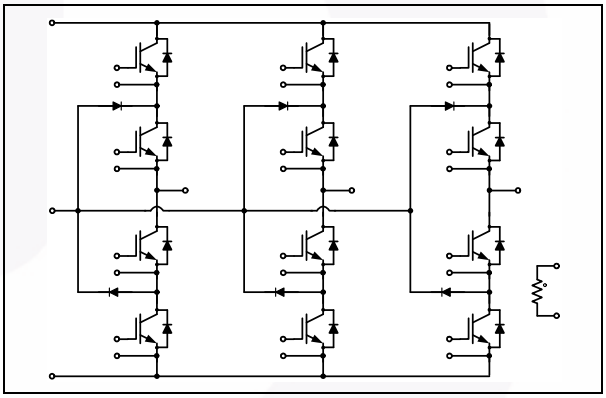
- Compact Size : F2 Package
- Press-fit Contact Technology
- Al_2O_3 Substrate with Low Thermal Resistance

Applications

- Solar Inverter
- UPS

Related Materials

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



Internal Circuit Diagram

Package Marking and Ordering Information

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

Absolute Maximum Ratings $T_C = 25^oC$ unless otherwise noted.

Symbol	Description		Rating	Units
Outer IGBT(Q1, Q4, Q5, Q8, Q9, Q12)				
V_{CES}	Collector-Emitter Voltage		650	V
V_{GES}	Gate-Emitter Voltage		± 20	V
I_C	Continuous Collector Current	@ T_C = 80 °C, T_{Jmax} = 175 °C	30	A
I_{CM}	Pulsed Collector Current	limited by T_{Jmax}	60	A
P_D	Maximum Power Dissipation	@ T_C = 25 °C	135	W
T_J	Operating Junction Temperature		- 40 to + 150	°C
Inner IGBT(Q2, Q3, Q6, Q7, Q10, Q11)				
V_{CES}	Collector-Emitter Voltage		650	V
V_{GES}	Gate-Emitter Voltage		± 20	V
I_C	Continuous Collector Current	@ T_C = 80 °C, T_{Jmax} = 175 °C	50	A
I_{CM}	Pulsed Collector Current	limited by T_{Jmax}	100	A
P_D	Maximum Power Dissipation	@ T_C = 25 °C	174	W
T_J	Operating Junction Temperature		- 40 to + 150	°C
Outer - Inner IGBT Series Connection				
SCWT	Short Circuit Withstand Time	V_{DC} = 300 V, V_{GE} = 15 V T_C = 25 °C	4	μS
Diode				
V_{RRM}	Peak Repetitive Reverse Voltage		650	V
I_F	Continuous Forward Current	@ T_C = 80 °C, T_{Jmax} = 175 °C	15	A
I_{FM}	Maximum Forward Current		30	A
P_D	Maximum Power Dissipation	@ T_C = 25 °C	100	W
T_J	Operating Junction Temperature		- 40 to + 150	°C
Module				
T_{STG}	Storage Temperature		- 40 to + 125	°C
V_{ISO}	Isolation Voltage	@ AC 1 min.	2500	V
Iso._Material	Internal Isolation Material		Al_2O_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