

# FMS7G20US60S

## Compact & Complex Module

### Features

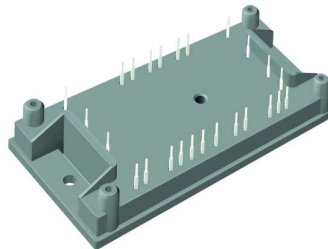
- Short Circuit Rated  $10\mu\text{s}$  @  $T_C = 100^\circ\text{C}$ ,  $V_{GE} = 15\text{V}$
- High Speed Switching
- Low Saturation Voltage :  $V_{CE(sat)} = 2.1\text{V}$  @  $I_C = 20\text{A}$
- High Input Impedance
- Built-in Brake & 1 Phase Rectifier Circuit
- Fast & Soft Anti-Parallel FWD
- Built-in NTC Thermistor

### Applications

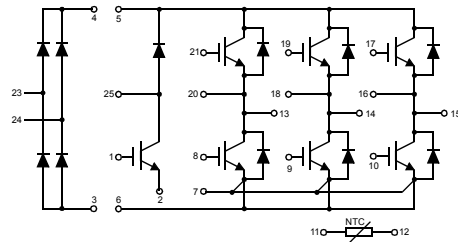
- AC & DC Motor Controls
- General Purpose Inverters
- Robotics
- Servo Controls

### Description

Fairchild IGBT Power Module provides low conduction and switching losses as well as short circuit ruggedness. It's designed for the applications such as motor control and general inverters where short-circuit ruggedness is required.



Package Code : 25PM-AA



Internal Circuit Diagram

## Absolute Maximum Ratings T<sub>C</sub> = 25°C unless otherwise noted

	Symbol	Description	FMS7G20US60S	Units
Inverter & Brake	V <sub>CES</sub>	Collector-Emitter Voltage	600	V
	V <sub>GES</sub>	Gate-Emitter Voltage	± 20	V
	I <sub>C</sub>	Collector Current @ T <sub>C</sub> = 80°C	20	A
	I <sub>CM(1)</sub>	Pulsed Collector Current	40	A
	I <sub>F</sub>	Diode Continuous Forward Current @ T <sub>C</sub> = 80°C	20	A
	I <sub>FM</sub>	Diode Maximum Forward Current	40	A
	P <sub>D</sub>	Maximum Power Dissipation @ T <sub>C</sub> = 25°C	89	W
	T <sub>SC</sub>	Short Circuit Withstand Time @ T <sub>C</sub> = 100°C	10	µs
Converter	V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	1600	V
	I <sub>O</sub>	Average Output Rectified Current	30	A
	I <sub>FSM</sub>	Surge Forward Current @ 1Cycle at 60Hz, Peak value Non-Repetitive	300	A
	i <sup>2</sup> t	Energy pulse @ 1Cycle at 60Hz	369	A <sup>2</sup> s
Common	T <sub>J</sub>	Operating Junction Temperature	-40 to +150	°C
	T <sub>STG</sub>	Storage Temperature Range	-40 to +125	°C
	V <sub>ISO</sub>	Isolation Voltage @ AC 1minute	2500	V
Mounting Torque	Mounting part Screw @ M4	2.0	N·m	

**Notes :**

(1) Repetitive rating : Pulse width limited by max. junction temperature

## Package Marking and Ordering Information

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
FMS7G20US60S	FMS7G20US60S	25PM-AA	--	--	--

(2) TMC2 Reliability test was done under -45°C ~ 125°C