

# FQA6N90C\_F109

## 900V N-Channel MOSFET

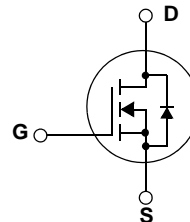
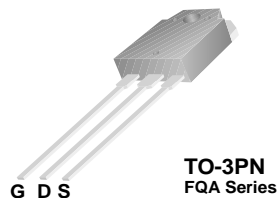
### Features

- 6A, 900V,  $R_{DS(on)} = 2.3\Omega @ V_{GS} = 10V$
- Low gate charge ( typical 30 nC)
- Low  $C_{rss}$  ( typical 11pF)
- Fast switching
- 100% avalanche tested
- Improved dv/dt capability
- RoHS compliant

### Description

These N-Channel enhancement mode power field effect transistors are produced using Fairchild's proprietary, planar stripe, DMOS technology.

This advanced technology has been especially tailored to minimize on-state resistance, provide superior switching performance, and withstand high energy pulse in the avalanche and commutation mode. These devices are well suited for high efficient switched mode power supplies, active power factor correction, electronic lamp ballast based on half bridge topology.



### Absolute Maximum Ratings

Symbol	Parameter	FQA6N90C_F109	Units
$V_{DSS}$	Drain-Source Voltage	900	V
$I_D$	Drain Current - Continuous ( $T_C = 25^\circ C$ )	6.0	A
	- Continuous ( $T_C = 100^\circ C$ )	3.87	A
$I_{DM}$	Drain Current - Pulsed (Note 1)	24.0	A
$V_{GSS}$	Gate-Source Voltage	$\pm 30$	V
$E_{AS}$	Single Pulsed Avalanche Energy (Note 2)	650	mJ
$I_{AR}$	Avalanche Current (Note 1)	6.0	A
$E_{AR}$	Repetitive Avalanche Energy (Note 1)	19.8	mJ
dv/dt	Peak Diode Recovery dv/dt (Note 3)	4.0	V/ns
$P_D$	Power Dissipation ( $T_C = 25^\circ C$ )	198	W
	- Derate above $25^\circ C$	1.59	W/ $^\circ C$
$T_J, T_{STG}$	Operating and Storage Temperature Range	-55 to +150	$^\circ C$
$T_L$	Maximum lead temperature for soldering purposes, 1/8		

### Thermal Characteristics