

FQA9N90_F109

900V N-Channel MOSFET

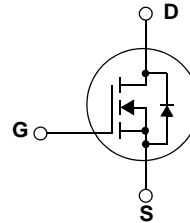
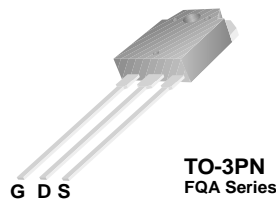
Features

- 8.6A, 900V, $R_{DS(on)} = 1.3\Omega @ V_{GS} = 10V$
- Low gate charge (typical 55 nC)
- Low C_{rss} (typical 25pF)
- 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	FQA9N90_F109	Units
V_{DSS}	Drain-Source Voltage	900	V
I_D	Drain Current - Continuous ($T_C = 25^\circ\text{C}$)	8.6	A
	- Continuous ($T_C = 100^\circ\text{C}$)	5.45	A
I_{DM}	Drain Current - Pulsed (Note 1)	34.4	A
V_{GSS}	Gate-Source Voltage	± 30	V
E_{AS}	Single Pulsed Avalanche Energy (Note 2)	900	mJ
I_{AR}	Avalanche Current (Note 1)	8.6	A
E_{AR}	Repetitive Avalanche Energy (Note 1)	24	mJ
dv/dt	Peak Diode Recovery dv/dt (Note 3)	4.0	V/ns
P_D	Power Dissipation ($T_C = 25^\circ\text{C}$)	240	W
	- Derate above 25°C	1.92	W/ $^\circ\text{C}$
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to +150	$^\circ\text{C}$
T_L	Maximum lead temperature for soldering purposes, 1/8		

Thermal Characteristics