

# FQA13N50CF

## 500V N-Channel MOSFET

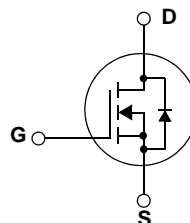
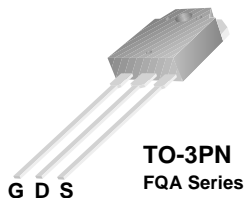
### Features

- 15A, 500V,  $R_{DS(on)} = 0.48\Omega$  @  $V_{GS} = 10V$
- Low gate charge (typical 43nC)
- Low  $C_{rss}$  (typical 20pF)
- Fast switching
- 100% avalanche tested
- Improved dv/dt capability
- Fast recovery body diode (typical 100ns)
- 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	FQA13N50CF	Units
$V_{DSS}$	Drain-Source Voltage	500	V
$I_D$	Drain Current - Continuous ( $T_C = 25^\circ\text{C}$ )	15	A
	- Continuous ( $T_C = 100^\circ\text{C}$ )	9.5	A
$I_{DM}$	Drain Current - Pulsed (Note 1)	60	A
$V_{GSS}$	Gate-Source Voltage	$\pm 30$	V
$E_{AS}$	Single Pulsed Avalanche Energy (Note 2)	860	mJ
$I_{AR}$	Avalanche Current (Note 1)	15	A
$E_{AR}$	Repetitive Avalanche Energy (Note 1)	21.8	mJ
dv/dt	Peak Diode Recovery dv/dt (Note 3)	4.5	V/ns
$P_D$	Power Dissipation ( $T_C = 25^\circ\text{C}$ )	218	W
	- Derate above $25^\circ\text{C}$	1.56	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