FAIRCHILD SEMICONDUCTOR®

April 2007

QFET®

FQP10N60C / FQPF10N60C
600V N-Channel MOSFET

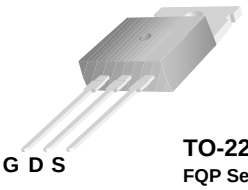
Features

- 9.5A, 600V, $R_{DS(on)}$ = 0.73Ω @V_{GS} = 10 V
- Low gate charge (typical 44 nC)
- Low Crss (typical 18 pF)
- Fast switching
- 100% avalanche tested
- Improved dv/dt capability

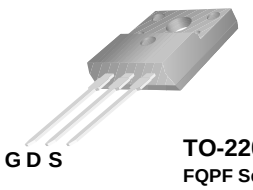
Description

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

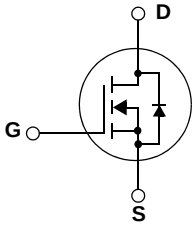
This advanced technology has been especially tailored to minimize on-state resistance, provide superior switching performance, and withstand high energy pulse in the avalanche and commutation mode. These devices are well suited for high efficiency switched mode power supplies, active power factor correction,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



TO-220
FQP Series



TO-220F
FQPF Series



Absolute Maximum Ratings

Symbol	Parameter		FQP10N60C	FQPF10N60C	Units
V_{DSS}	Drain-Source Voltage		600		V
I_D	Drain Current - Continuous (T_C = 25℃)		9.5	9.5 *	A
	- Continuous (T_C = 100℃)		5.7	5.7 *	A
I_{DM}	Drain Current - Pulsed	(Note 1)	38	38 *	A
V_{GSS}	Gate-Source Voltage		± 30		V
E_{AS}	Single Pulsed Avalanche Energy	(Note 2)	700		mJ
I_{AR}	Avalanche Current	(Note 1)	9.5		A
E_{AR}	Repetitive Avalanche Energy	(Note 1)	15.6		mJ
dv/dt	Peak Diode Recovery dv/dt	(Note 3)	4.5		V/ns
P_D	Power Dissipation (T_C = 25℃)		156	50	W
	- Derate above 25℃		1.25	0.4	W/℃
T_J, T_{STG}	Operating and Storage Temperature Range		-55 to +150		℃
T_L	Maximum lead temperature for soldering purposes, 1/8				

* Drain current limited by maximum junction temperature.

Thermal Characteristics