



August 2014

FQP15P12 / FQPF15P12

P-Channel QFET[®] MOSFET

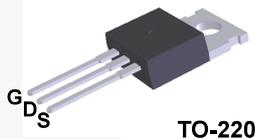
-120 V, -15 A, 0.2 Ω

Description

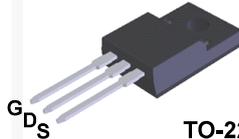
This P-Channel enhancement mode power MOSFET is produced using Fairchild Semiconductor's proprietary planar stripe and DMOS technology. This advanced MOSFET technology has been especially tailored to reduce on-state resistance, and to provide superior switching performance and high avalanche energy strength. These devices are suitable for switched mode power supplies, audio amplifier, DC motor control, and variable switching power applications.

Features

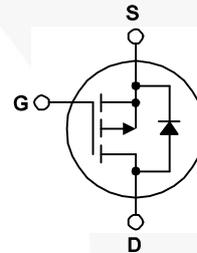
- -15 A, -120 V, $R_{DS(on)} = 0.2 \Omega$ (Max.) @ $V_{GS} = -10 V$, $I_D = -7.5 A$
- Low Gate Charge (Typ. 29 nC)
- Low Crss (Typ. 110 pF)
- 100% Avalanche Tested
- 175°C Maximum Junction Temperature Rating



TO-220



TO-220F



Absolute Maximum Ratings $T_C = 25^\circ C$ unless otherwise noted.

Symbol	Parameter	FQP15P12	FQPF15P12	Unit
V_{DSS}	Drain-Source Voltage	-120		V
I_D	Drain Current - Continuous ($T_C = 25^\circ C$) - Continuous ($T_C = 100^\circ C$)	-15	-15 *	A
		-10.6	-10.6 *	A
I_{DM}	Drain Current - Pulsed (Note 1)	-60	-60 *	A
V_{GSS}	Gate-Source Voltage	± 30		V
E_{AS}	Single Pulsed Avalanche Energy (Note 2)	1157		mJ
I_{AR}	Avalanche Current (Note 1)	-15		A
E_{AR}	Repetitive Avalanche Energy (Note 1)	10		mJ
dv/dt	Peak Diode Recovery dv/dt (Note 3)	-5.0		V/ns
P_D	Power Dissipation ($T_C = 25^\circ C$) - Derate above $25^\circ C$	100	41	W
		0.67	0.27	W/ $^\circ C$
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to +175		$^\circ C$
T_L	Maximum Lead Temperature for Soldering, 1/8" from Case for 5 Seconds	300		$^\circ C$

* Drain current limited by maximum junction temperature.

Thermal Characteristics

Symbol	Parameter	FQP15P12	FQPF15P12	Unit
$R_{\theta JC}$	Thermal Resistance, Junction-to-Case	1.5	3.66	$^\circ C/W$
$R_{\theta JS}$	Thermal Resistance, Case-to-Sink Typ.	40	--	$^\circ C/W$
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	62.5	62.5	$^\circ C/W$

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