

FQP17P06

60V P-Channel MOSFET

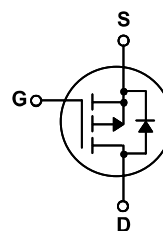
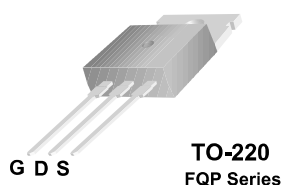
General Description

These P-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 a high energy pulse in the avalanche and commutation modes. These devices are well suited for low voltage applications such as automotive, DC/DC converters, and high efficiency switching for power management in portable and battery operated products.

Features

- -17A, -60V, $R_{DS(on)} = 0.12\Omega @ V_{GS} = -10V$
- Low gate charge (typical 21 nC)
- Low Crss (typical 80 pF)
- Fast switching
- 100% avalanche tested
- Improved dv/dt capability
- 175°C maximum junction temperature rating



Absolute Maximum Ratings $T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	FQP17P06	Units
V_{DSS}	Drain-Source Voltage	-60	V
I_D	Drain Current - Continuous ($T_C = 25^\circ\text{C}$) - Continuous ($T_C = 100^\circ\text{C}$)	-17	A
		-12	A
I_{DM}	Drain Current - Pulsed (Note 1)	-68	A
V_{GSS}	Gate-Source Voltage	± 25	V
E_{AS}	Single Pulsed Avalanche Energy (Note 2)	300	mJ
I_{AR}	Avalanche Current (Note 1)	-17	A
E_{AR}	Repetitive Avalanche Energy (Note 1)	7.9	mJ
dv/dt	Peak Diode Recovery dv/dt (Note 3)	-7.0	V/ns
P_D	Power Dissipation ($T_C = 25^\circ\text{C}$) - Derate above 25°C	79	W
		0.53	W/°C
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to +175	°C
T_L	Maximum lead temperature for soldering purposes, 1/8" from case for 5 seconds	300	°C

Thermal Characteristics

Symbol	Parameter	Typ	Max	Units
$R_{\theta JC}$	Thermal Resistance, Junction-to-Case	--	1.9	°C/W
$R_{\theta CS}$	Thermal Resistance, Case-to-Sink	0.5	--	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	--	62.5	°C/W