TIGER ELECTRONIC CO.,LTD

Product specification

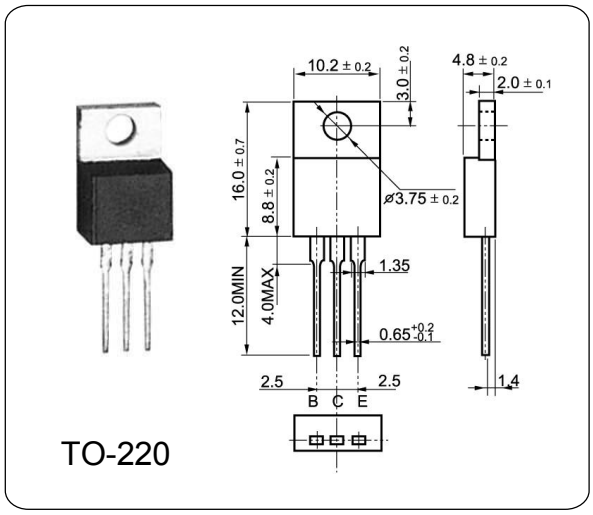
60V N-Channel MOSFET — FQP50N06

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 low voltage applications such as automotive, DC/DC converters, and high efficiency switching for power management in portable and battery operated products.

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

Parameter	I	Value	Unit
Drain-Source Voltage	V_{DSS}	60	V
Drain Current - Continuous	I_D	50	A
Drain Current - Pulsed	I_{DM}	200	A
Gate-Source Voltage	V_{GSS}	±25	V
Power Dissipation	P_D	120	W
Max. Operating Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~150	°C



ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} = 0V, I_D =250 μ A	60	—	—	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =60V, V_{GS} =0V	—	—	1.0	uA
Gate-Body Leakage Current, Forward	I_{GSSF}	V_{GS} =25V, V_{DS} =0V	—	—	100	nA
Gate-Body Leakage Current, Reverse	I_{GSSR}	V_{GS} = -25V, V_{DS} =0V	—	—	-100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D =250 μ A	2.0	—	4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 10 V, I_D = 25 A	—	18	22	m Ω
Forward Transconductance	g_{FS}	V_{DS} = 25 V, I_D = 25 A	—	22	—	S
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS} = 0 V, I_S = 50 A	—	—	1.5	V