



200V N-Channel MOSFET

IRFS640B

DESCRIPTION

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

This advanced technology has been minimized 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 switch mode power supplies, power factor correction and electronic lamp ballasts based on half bridge.

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	200	V
Drain Current - Continuous	I_D	18	A
Drain Current - Pulsed	I_{DM}	72	A
Gate-Source Voltage	V_{GSS}	30	V
Power Dissipation	P_D	125	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}	$V_{GS} = 0V, I_D = 250 A$	200			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 200V, V_{GS} = 0V$			10	uA
Gate-Body Leakage Current, Forward	I_{GSSF}	$V_{GS} = 30V, V_{DS} = 0V$			100	uA
Gate-Body Leakage Current, Reverse	I_{GSSR}	$V_{GS} = -30V, V_{DS} = 0V$			-100	uA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250 A$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 10 V, I_D = 10.0 A$		0.14	0.18	W
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS} = 0 V, I_S = 18.0 A$			2.0	V