

General Description

The IRF5803B uses advanced trench technology and design to provide excellent RDS(ON). This device is ideal for battery and load management applications.

Features

- P-Channel
- Low ON-resistance
- Surface Mount
- RoHS Compliant

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-60	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D @ T_A = 25^\circ C$	Continuous Drain Current	-4	A
I_{DM}	Pulsed Drain Current	-16	A
$P_D @ T_A = 25^\circ C$	Total Power Dissipation ¹	2	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ C$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ C$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient ¹	---	62.5	$^\circ C/W$

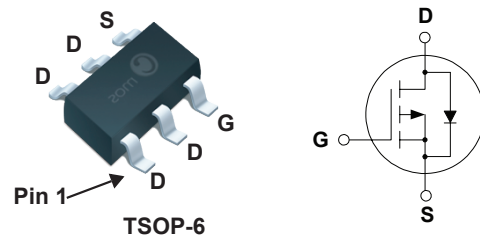
Product Summary

BVDSS	RDSON	ID
-60V	98m Ω	-4.0A

Applications

- Inverters
- Power Supplies
- DC / DC converter

TSOP-6 Pin Configuration



Type	Package	Marking
IRF5803B	TSOP-6	3GNRB

Electrical Characteristics (T_J=25°C , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =-250uA	-60	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =-10V, I _D =-3.5A	---	---	98	mΩ
		V _{GS} =-4.5V, I _D =-2.5A	---	---	110	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =-250 uA	-1	---	-3	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =-48V , V _{GS} =0V	---	---	-1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =-10V , I _D =-2A	---	3	---	S
Q _g	Total Gate Charge	I _D =-3A	---	15	---	nC
Q _{gs}	Gate-Source Charge	V _{DS} =-24V	---	2.5	---	
Q _{gd}	Gate-Drain Charge	V _{GS} =-10V	---	3.2	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =-24V	---	11	---	ns
T _r	Rise Time	I _D =-1.5A	---	13	---	
T _{d(off)}	Turn-Off Delay Time	R _L =16Ω	---	55	---	
T _f	Fall Time	V _{GS} =-10V	---	28	---	
C _{iss}	Input Capacitance	V _{DS} =-20V, V _{GS} =0V , f=1MHz	---	1600	---	pF
C _{oss}	Output Capacitance		---	75	---	
C _{rss}	Reverse Transfer Capacitance		---	50	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
t _{rr}	Reverse Recovery Time	I _F =-2A	---	25	---	ns
Q _{rr}	Reverse Recovery Charge	dI/dt=-100A/μs	---	34	---	nC
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =-2A	---	---	-1.2	V

Note :

1.Surface mounted on 1 in square Cu board

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