



Micro Commercial Components
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IRF630

N-Channel Power Mosfet

Features

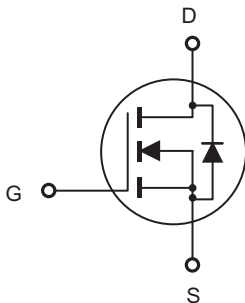
- High current rating
- Ultra lower $R_{DS(ON)}$
- Halogen free available upon request by adding suffix "-HF"
- Good stability and uniformity with high E_{AS}
- Excellent package for good heat dissipation
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings @ 25°C Unless Otherwise Specified

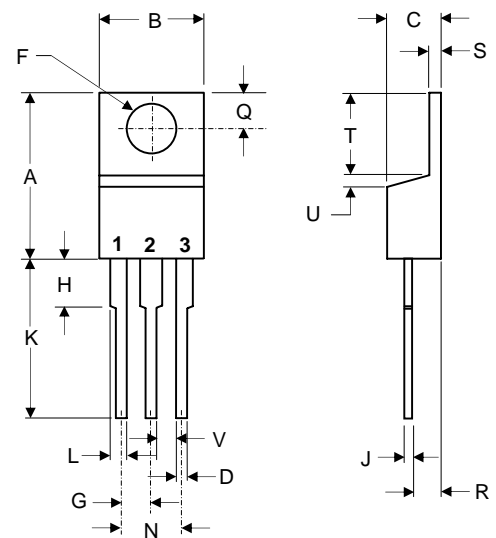
Symbol	Parameter	Rating	Unit
V_{GS}	Gate-source Voltage	± 20	V
I_D	Drain Current-Continuous	9.3	A
I_{DM}	Pulsed Drain Current	37	A
E_{AS}	Single Pulsed Avalanche Energy(note1)	250	mJ
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	62.5	$^{\circ}C/W$
T_J	Operating Junction Temperature	-55 to +150	$^{\circ}C$
T_{STG}	Storage Temperature	-55 to +150	$^{\circ}C$

Notes :1. $V_{DD}=50V$, starting $T_J=25^{\circ}C$, $L=4.6mH$, $R_G=25\Omega$, $I_L=9.9A$

Internal Block Diagram



TO-220



1.GATE
 2.DRAIN
 3.SOURCE

DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.560	.625	14.22	15.88	
B	.380	.420	9.65	10.67	
C	.140	.190	3.56	4.82	
D	.020	.045	0.51	1.14	
F	.134	.161	3.40	4.09	\varnothing
G	.190	.110	2.29	2.79	
H	---	.250	---	6.35	
J	.012	.025	0.30	0.64	
K	.500	.580	12.70	14.73	
L	.045	.060	1.14	1.52	
N	.190	.210	4.83	5.33	
Q	.100	.135	2.54	3.43	
R	.080	.115	2.04	2.92	
S	.045	.055	1.14	1.39	
T	.230	.270	5.84	6.86	
U	----	.050	----	1.27	
V	.045	----	1.15	----	

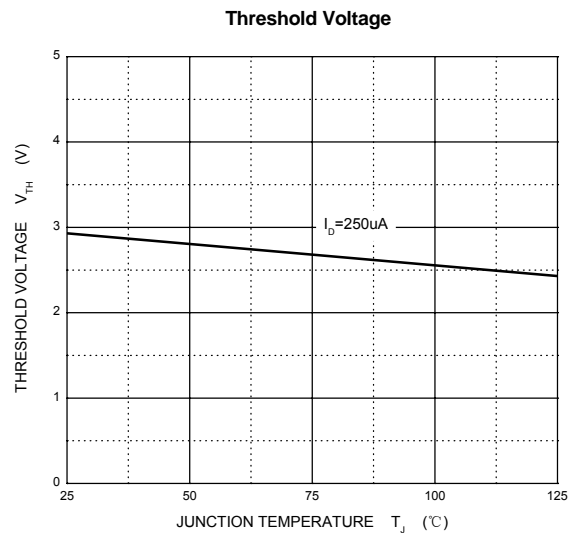
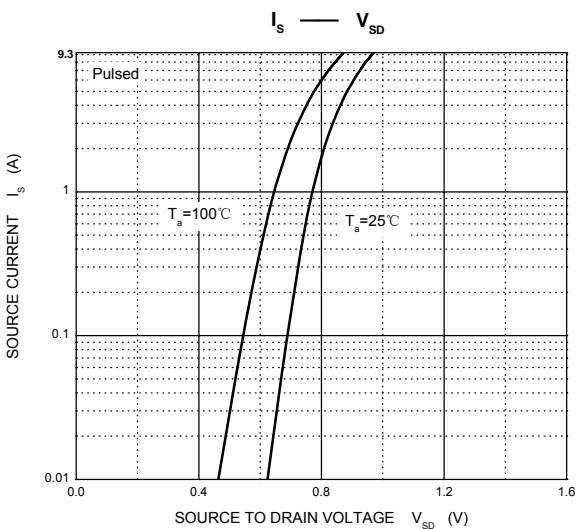
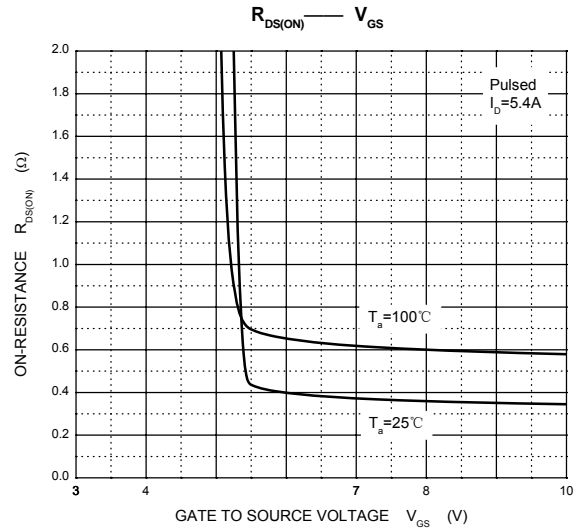
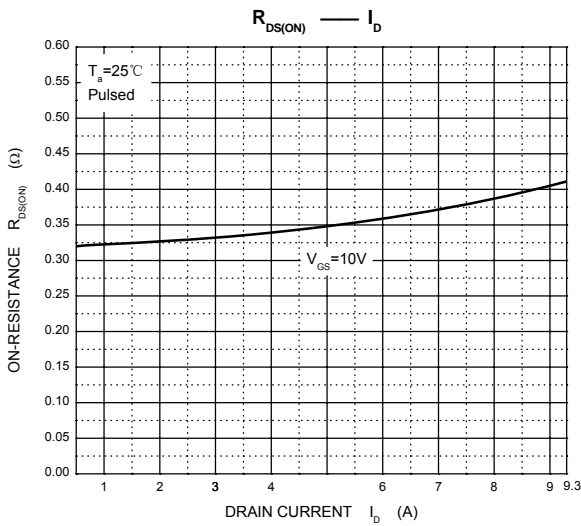
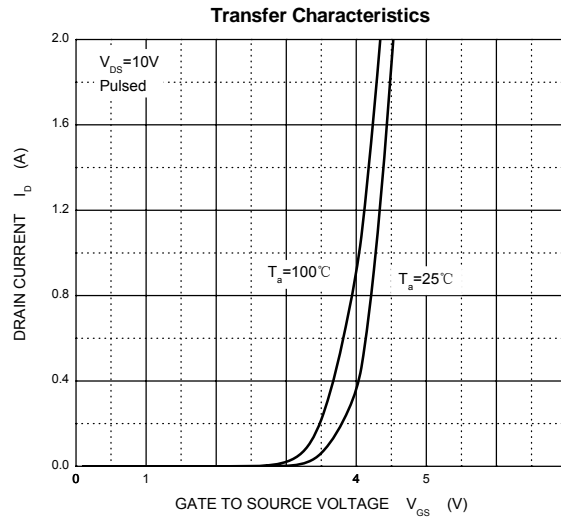
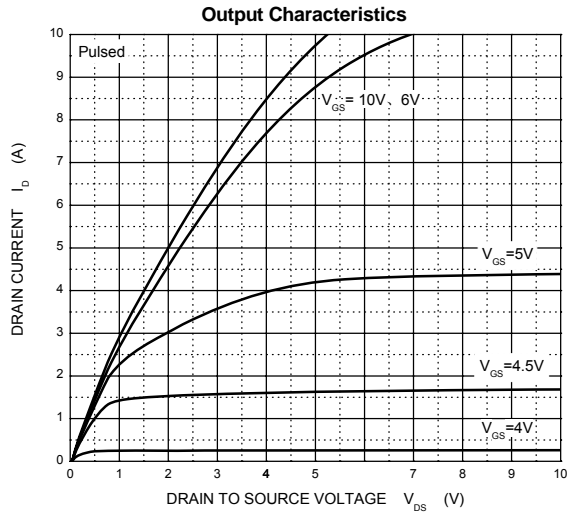
Electrical characteristics (T_a=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	200			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =200V, V _{GS} =0V			25	μA
Gate-body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
On characteristics (note2)						
Gate-threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2		4	V
Static drain-source on-resistance	R _{DS(on)}	V _{GS} =10V, I _D =5.4A			400	mΩ
Forward transconductance	g _{fs}	V _{DS} =50V, I _D =5.4A	3.8			S
Dynamic characteristics (note 3)						
Input capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f =1MHz		800		pF
Output capacitance	C _{oss}			240		
Reverse transfer capacitance	C _{rss}			76		
Switching characteristics (note 3)						
Turn-on delay time	t _{d(on)}	V _{DD} =100V, V _{GS} =10V, R _G =12Ω, I _D =5.9A		9.4		ns
Turn-on rise time	t _r			28		
Turn-off delay time	t _{d(off)}			39		
Turn-off fall time	t _f			20		
Drain-Source Diode Characteristics						
Drain-source diode forward voltage(note2)	V _{SD}	V _{GS} = 0V, I _S =9A			2	V
Continuous drain-source diode forward current(note4)	I _S				9.3	A
Pulsed drain-source diode forward current	I _{SM}				37	A

Notes :

- 2.Pulse test: Pulse width ≤300us,duty cycle≤2%
- 3.Guaranteed by design, not subject to production
- 4.Surface mounted on FR4 board, t≤10s

Typical Characteristics





Micro Commercial Components

Ordering Information :

Device	Packing
Part Number-BP	Bulk;50pcs/Tube

Note : Adding "-HF" suffix for halogen free, eg. Part Number-BP-HF

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