



PRODUCT NAME : IRF630 N-Channel MOS
FET

PRICE : Rs 39.00

SKU : RM2123



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DESCRIPTION

Features

- Drain-Source Volt (V_{ds}): 200V
- Gate-Source Volt (V_{gs}): 200V
- Gate-Source Volt (V_{gs}): 20V
- Drain Current (I_d): 9A
- Power Dissipation (P_{tot}): 75W
- Type: N-Channel



IRF630 IRF630FP

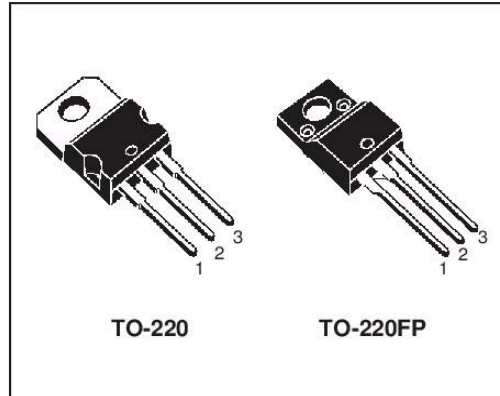
N - CHANNEL 200V - 0.35Ω - 9A - TO-220/FP MESH OVERLAY™ MOSFET

TYPE	V _{DSS}	R _{DS(on)}	I _D
IRF630	200 V	< 0.40 Ω	9 A
IRF630FP	200 V	< 0.40 Ω	9 A

- TYPICAL R_{DS(on)} = 0.35 Ω
- EXTREMELY HIGH dV/dt CAPABILITY
- VERY LOW INTRINSIC CAPACITANCES
- GATE CHARGE MINIMIZED

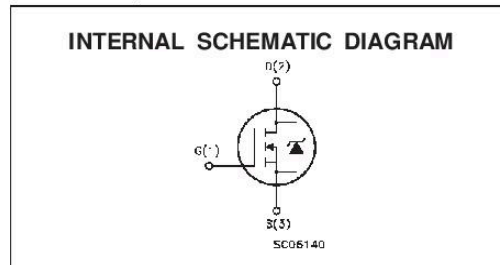
DESCRIPTION

This power MOSFET is designed using the company's consolidated strip layout-based MESH OVERLAY™ process. This technology matches and improves the performances compared with standard parts from various sources.



APPLICATIONS

- HIGH CURRENT SWITCHING
- UNINTERRUPTIBLE POWER SUPPLY (UPS)
- DC/DC CONVERTERS FOR TELECOM, INDUSTRIAL, AND LIGHTING EQUIPMENT.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		IRF630	IRF630FP	
V _{DS}	Drain-source Voltage (V _{GS} = 0)	200		V
V _{DGR}	Drain- gate Voltage (R _{GS} = 20 kΩ)	200		V
V _{GS}	Gate-source Voltage	± 20		V
I _D	Drain Current (continuous) at T _c = 25 °C	9	9(**)	A
I _D	Drain Current (continuous) at T _c = 100 °C	5.7	5.7(**)	A
I _{DM} (*)	Drain Current (pulsed)	36	36	A
P _{tot}	Total Dissipation at T _c = 25 °C	75	25	W
	Derating Factor	0.6	0.20	W/°C
dv/dt(1)	Peak Diode Recovery voltage slope	5	5	V/ns
V _{ISO}	Insulation Withstand Voltage (DC)	—	2000	V
T _{stg}	Storage Temperature	-65 to 150		°C
T _j	Max. Operating Junction Temperature	150		°C

(*) Pulse width limited by safe operating area (1) I_{SD} ≤ 9A, di/dt ≤ 300 A/μs, V_{DD} ≤ V_{(BR)DSS}, T_j ≤ T_{JMAX}

First Digit of the Datecode Being Z or K Identifies Silicon Characterized in this Datasheet

(**) Limited only by Maximum Temperature Allowed

IRF630/FP

THERMAL DATA

		TO-220	TO-220FP		
R _{thj-case}	Thermal Resistance Junction-case	Max	1.67	4.17	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	62.5		°C/W
R _{thc-sink}	Thermal Resistance Case-sink	Typ	0.5		°C/W
T _l	Maximum Lead Temperature For Soldering Purpose		300		°C

AVALANCHE CHARACTERISTICS

Symbol	Parameter	Max Value	Unit
I _{AR}	Avalanche Current, Repetitive or Not-Repetitive (pulse width limited by T _j max)	9	A
E _{AS}	Single Pulse Avalanche Energy (starting T _j = 25 °C, I _D = I _{AR} , V _{DD} = 50 V)	160	mJ

ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

OFF

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V _{(BR)DSS}	Drain-source Breakdown Voltage	I _D = 250 μA V _{GS} = 0	200			V
I _{DSS}	Zero Gate Voltage Drain Current (V _{GS} = 0)	V _{DS} = Max Rating V _{DS} = Max Rating T _c = 125 °C			1 50	μA μA
I _{GSS}	Gate-body Leakage Current (V _{DS} = 0)	V _{GS} = ± 20 V			± 100	nA

ON (*)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} I _D = 250 μA	2	3	4	V
R _{DS(on)}	Static Drain-source On Resistance	V _{GS} = 10V I _D = 5 A		0.35	0.40	Ω
I _{D(on)}	On State Drain Current	V _{DS} > I _{D(on)} × R _{DS(on)max} V _{GS} = 10 V	10			A

DYNAMIC

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
g _{fS} (*)	Forward Transconductance	V _{DS} > I _{D(on)} × R _{DS(on)max} I _D = 5 A	3	4		S
C _{iSS}	Input Capacitance	V _{DS} = 25 V f = 1 MHz V _{GS} = 0		540	700	pF
C _{oSS}	Output Capacitance			90	120	pF
C _{rSS}	Reverse Transfer Capacitance			35	50	pF

