

# isc N-Channel MOSFET Transistor

### **IRFU4104**

#### • FEATURES

- With TO-251(IPAK) packaging
- · High speed switching
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



- Power supply
- · DC-DC converters
- Motor control
- · Switching applications



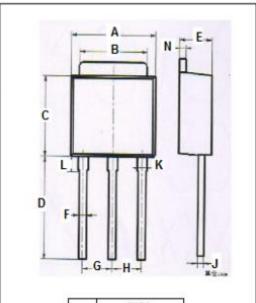


### • ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT	
V <sub>DSS</sub>	Drain-Source Voltage	40	V	
V <sub>GSS</sub>	Gate-Source Voltage	±20	V	
I <sub>D</sub>	Drain Current-Continuous	119	А	
I <sub>DM</sub>	Drain Current-Single Pulsed	480	А	
P <sub>D</sub>	Total Dissipation	140	W	
Tj	Operating Junction Temperature	-55~175	$^{\circ}\mathbb{C}$	
T <sub>stg</sub>	Storage Temperature	-55~175	$^{\circ}$	

#### • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER		UNIT	
Rth(ch-c)	Channel-to-case thermal resistance	1.05	°C/W	
Rth(ch-a)	Channel-to-ambient thermal resistance	40	°C/W	



	mm		
DIM	MIN	MAX	
Α	6.40	6.48	
В	5.10	5.50	
С	5.80	6.20	
D	9.20	9.60	
E	2.20	2.40	
F	0.50	0.70	
G	2.09	2.49	
Н	2.09	2.49	
J	0.40	0.60	
K	0.70	0.90	
L	1.60	2.00	
N	0.40	0.60	

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#### **ELECTRICAL CHARACTERISTICS**

T<sub>C</sub>=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> = 0.25mA	40			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =0.25mA	2.0		4.0	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =42A		4.3	5.5	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±16V;V <sub>DS</sub> =0V			±0.2	μА
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> = 40V; V <sub>GS</sub> = 0V;Tj=25℃ V <sub>DS</sub> = 40V; V <sub>GS</sub> = 0V;Tj=125℃			20 250	μА
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =42A, V <sub>GS</sub> =0V			1.3	V



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