

# Isc N-Channel MOSFET Transistor

# IRLU014PBF

### • FEATURES

- Low power loss
- High speed switching
- Low on-resistance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

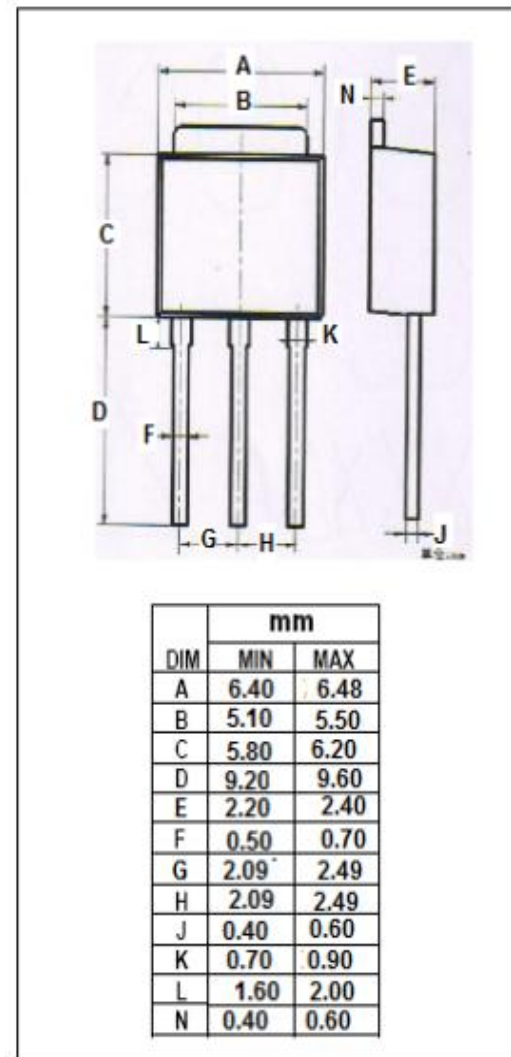
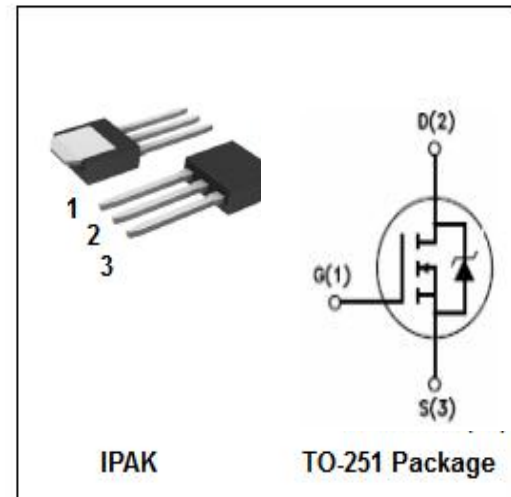
- Switching applications

### • ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	60	V
$V_{GSS}$	Gate-Source Voltage	$\pm 10$	V
$I_D$	Drain Current-Continuous@ $T_c=25^{\circ}\text{C}$ $T_c=100^{\circ}\text{C}$	7.7 4.9	A
$I_{DM}$	Drain Current-Single Pulsed	31	A
$P_D$	Total Dissipation	25	W
$T_j$	Operating Junction Temperature	-55~150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^{\circ}\text{C}$

### • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	5.0	$^{\circ}\text{C}/\text{W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	110	$^{\circ}\text{C}/\text{W}$



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**ELECTRICAL CHARACTERISTICS**

 T<sub>c</sub>=25°C 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	60			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =± 10V; I <sub>D</sub> =1mA	1		2	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 5V; I <sub>D</sub> =4.6A V <sub>GS</sub> = 4V; I <sub>D</sub> =3.9A			0.2 0.28	Ω
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ± 10V; V <sub>DS</sub> = 0V			±0.1	μ A
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> = 60V; V <sub>GS</sub> = 0V; T <sub>c</sub> =25°C V <sub>DS</sub> = 48V; V <sub>GS</sub> = 0V; T <sub>c</sub> =25°C			25 250	μ A
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =7.7A, V <sub>GS</sub> = 0 V			1.6	V

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