

isc N-Channel MOSFET Transistor

IRFU1010Z

• 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

• APPLICATIONS

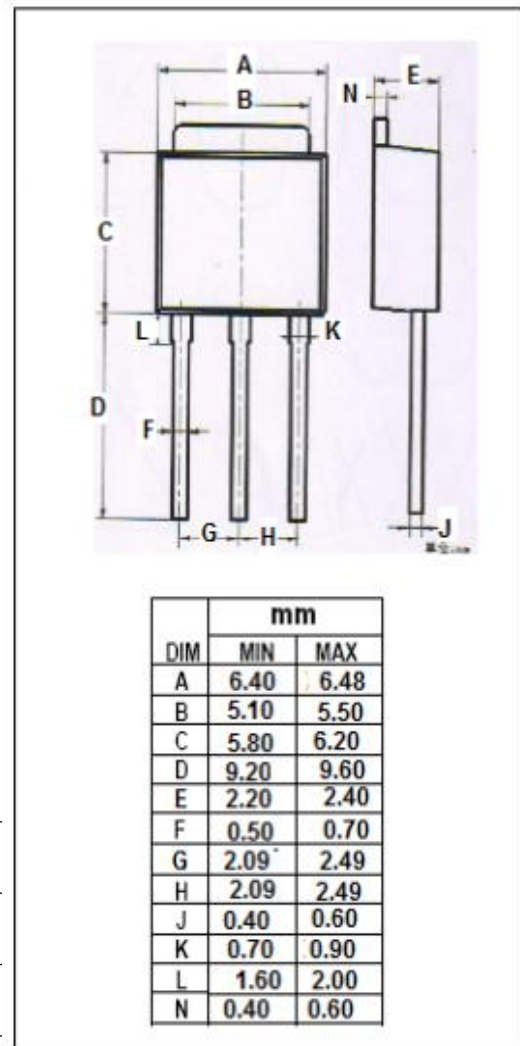
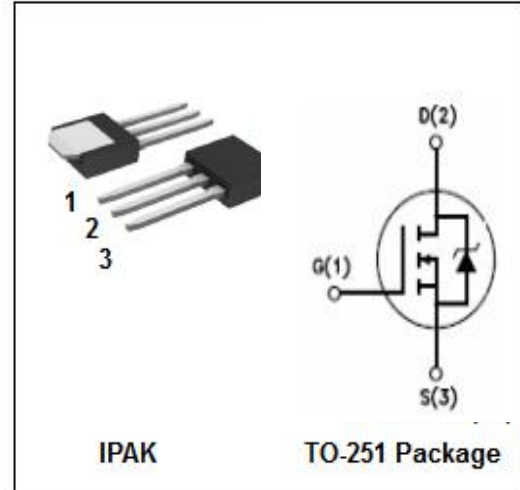
- Power supply
- DC-DC converters
- Motor control
- Switching applications

• ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{DSS}	Drain-Source Voltage	55	V
V _{GSS}	Gate-Source Voltage	±20	V
I _D	Drain Current-Continuous	91	A
I _{DM}	Drain Current-Single Pulsed	360	A
P _D	Total Dissipation	140	W
T _j	Operating Junction Temperature	-55~175	°C
T _{stg}	Storage Temperature	-55~175	°C

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th(ch-c)}	Channel-to-case thermal resistance	1.11	°C/W
R _{th(ch-a)}	Channel-to-ambient thermal resistance	40	°C/W



isc N-Channel MOSFET Transistor**IRFU1010Z****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=0.25mA$	55			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=0.1mA$	2.0		4.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=42A$		5.8	7.5	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V; V_{DS}=0V$			± 0.2	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=55V; V_{GS}=0V; T_j=25^{\circ}\text{C}$ $V_{DS}=55V; V_{GS}=0V; T_j=125^{\circ}\text{C}$			20 250	μA
V_{SDF}	Diode forward voltage	$I_{SD}=42A, V_{GS}=0V$			1.3	V

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