

isc N-Channel MOSFET Transistor

IRL1004S

• FEATURES

- With TO-263(D2PAK) packaging
- High speed switching
- Low gate input resistance
- Standard level gate drive
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

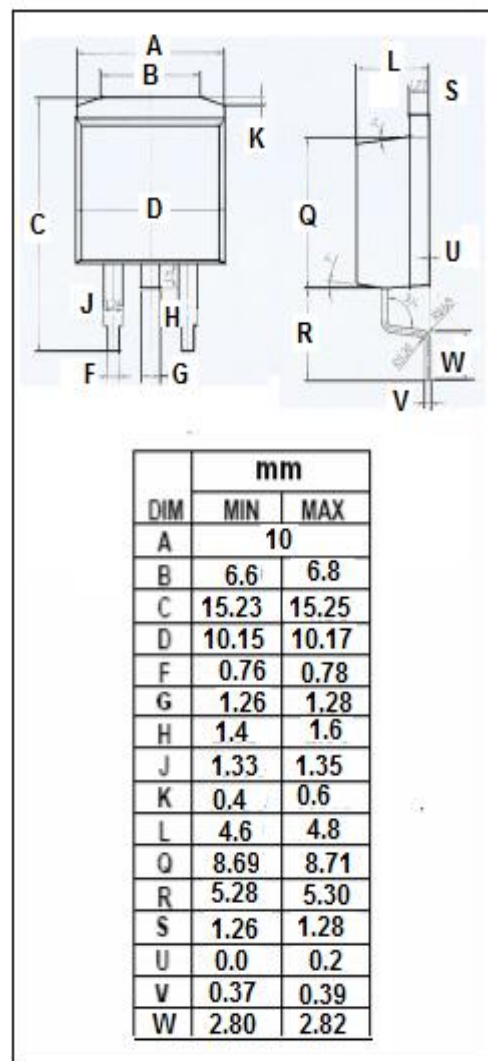
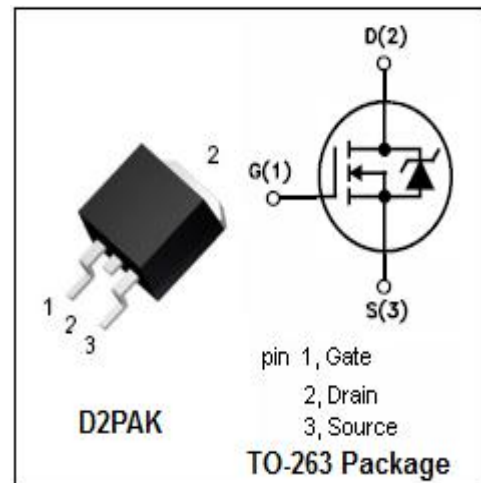
- Power supply
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	± 16	V
I_D	Drain Current-Continuous; $T_c=25^{\circ}\text{C}$ $T_c=100^{\circ}\text{C}$	130 92	A
I_{DM}	Drain Current-Single Pulsed	520	A
P_D	Total Dissipation	200	W
T_j	Operating Junction Temperature	175	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~175	$^{\circ}\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	0.75	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	40	$^{\circ}\text{C/W}$



isc N-Channel MOSFET Transistor**IRL1004S****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=0.25mA$	40			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=0.25mA$	1.0		3.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=78A$			6.5	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 16V; V_{DS}=0V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=60V; V_{GS}=0V; T_c=25^{\circ}\text{C}$ $V_{DS}=60V; V_{GS}=0V; T_c=150^{\circ}\text{C}$			25 250	μA
V_{SDF}	Diode forward voltage	$I_{SD}=78A, V_{GS}=0V$			1.3	V

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