

isc N-Channel MOSFET Transistor

IRL3705NS

• 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

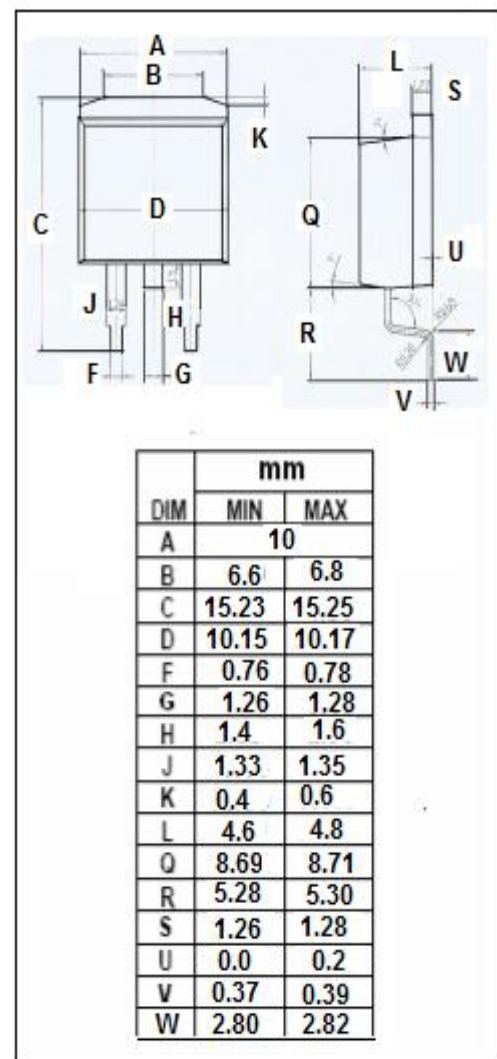
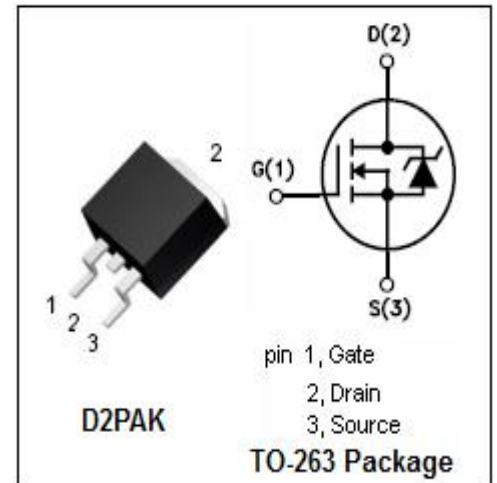
- Power supply
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	55	V
V_{GS}	Gate-Source Voltage	± 16	V
I_D	Drain Current-Continuous; $T_c=25^{\circ}\text{C}$ $T_c=100^{\circ}\text{C}$	89 63	A
I_{DM}	Drain Current-Single Pulsed	310	A
P_D	Total Dissipation	170	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	0.9	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	40	$^{\circ}\text{C/W}$



isc N-Channel MOSFET Transistor**IRL3705NS****ELECTRICAL CHARACTERISTICS****T_c=25°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 =0.25mA	1.0		2.0	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D =46A			10	mΩ
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±16V; V _{DS} = 0V			±0.1	μA
I _{DSS}	Drain-Source Leakage Current	V _{DS} =55V; V _{GS} = 0V; T _c =25°C V _{DS} =44V; V _{GS} = 0V; T _c =150°C			25 250	μA
V _{SDF}	Diode forward voltage	I _{SD} =46A, V _{GS} = 0 V			1.3	V

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