

# isc N-Channel MOSFET Transistor

## IRL3705NPBF

### • FEATURES

- Static drain-source on-resistance: R<sub>DS</sub>(on) ≤10mΩ
- · Lead-Free
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



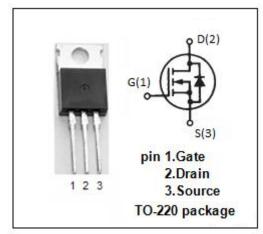
• reliable device for use in a wide variety of applications

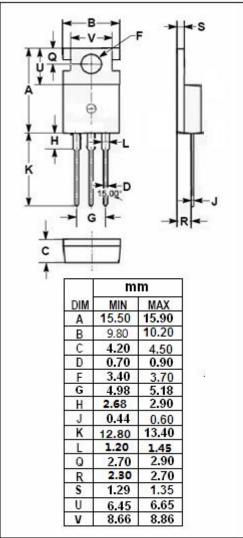
### • ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	55	V
V <sub>GS</sub>	Gate-Source Voltage	±16	V
I <sub>D</sub>	Drain Current-Continuous	89	А
I <sub>DM</sub>	Drain Current-Single Pulsed	310	А
P <sub>D</sub>	Total Dissipation @Tc=25℃	170	W
Tj	Max. Operating Junction Temperature	-55~175	${\mathbb C}$
T <sub>stg</sub>	Storage Temperature	-55~175	$^{\circ}$ C

#### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	0.9	°C/W







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#### **ELECTRICAL CHARACTERISTICS**

Tc=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	ТҮР	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; ID =250 μ A	55			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; ID =250 μ A	1.0		2.0	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =46A			10	mΩ
lgss	Gate-Source Leakage Current	V <sub>GS</sub> =±16V			±0.1	μ <b>А</b>
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =55V; V <sub>GS</sub> = 0V			25	μ <b>A</b>
$V_{SD}$	Diode forward voltage	Is=46A, V <sub>GS</sub> = 0 V			1.3	V

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