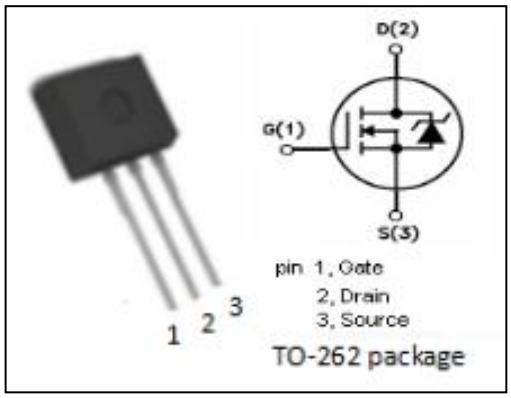
Isc N-Channel MOSFET Transistor IRL3705NL

• **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
• Motor control
• DC – DC converters

• **ABSOLUTE MAXIMUM RATINGS(T_a=25℃)**

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	55	V
V_{GSS}	Gate-Source Voltage	±16	V
I_D	Drain Current-Continuous@T_C=25℃ T_C=100℃	89 63	A
I_{DM}	Drain Current-Single Pulsed	310	A
P_D	Total Dissipation	170	W
T_j	Operating Junction Temperature	-55~175	℃
T_{stg}	Storage Temperature	-55~175	℃

• **THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	0.9	℃/W
Rth(ch-a)	Channel-to-ambient thermal resistance	40	℃/W

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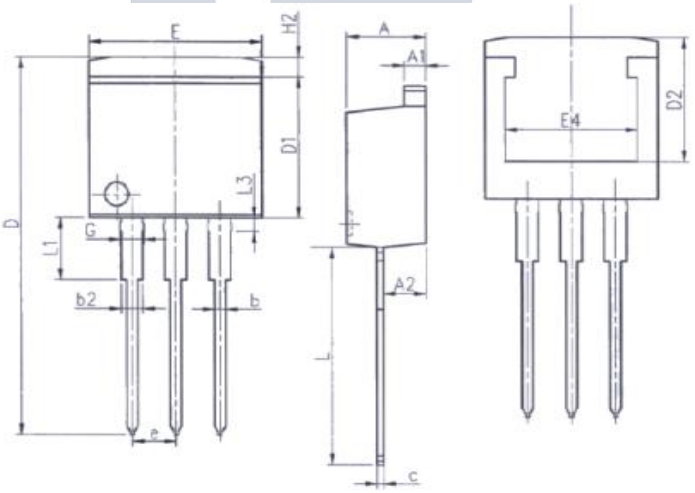
ELECTRICAL CHARACTERISTICS

T_C=25℃ 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}=±16V; I_D=0.25mA	1		2	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D=46A V_{GS}= 10V; I_D=46A V_{GS}= 10V; I_D=39A			10 12 18	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			25 250	μA
V_{SDF}	Diode forward voltage	I_{SD}=46A, V_{GS} = 0 V			1.3	V

DIMENSIONAL DRAWING



Unit: mm		
Symbol	Min.	Max.
A	4.37	4.77
A1	1.22	1.42
A2	2.47	2.87
b	0.70	0.97
b2	1.17	1.42
c	0.28	0.53
D	23.20	24.02
D1	8.38	8.90
D2	6.00	–

Unit: mm		
Symbol	Min.	Max.
E	9.90	10.39
E4	7.30	–
e	2.54BSC	
G	1.25	1.50
H2	–	1.31
L	13.34	14.10
L1	3.30	4.06
L3	0.95	1.15

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