

# **Isc N-Channel MOSFET Transistor**

## IRL540NL

### • FEATURES

- With To-262 package
- · Low input capacitance and gate charge
- · Low gate input resistance
- · 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

Switching applications

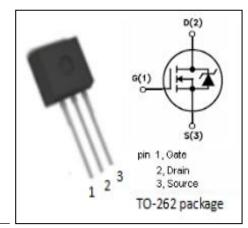


### ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	100	V
$V_{GSS}$	Gate-Source Voltage	±16	V
I <sub>D</sub>	Drain Current-ContinuousTc=25℃ Tc=100℃	36 26	А
I <sub>DM</sub>	Drain Current-Single Pulsed	120	А
P <sub>D</sub>	Total Dissipation @T <sub>C</sub> =25°C	140	W
T <sub>ch</sub>	Max. Operating Junction Temperature	175	$^{\circ}$
T <sub>stg</sub>	Storage Temperature	-55~175	${\mathbb C}$

## • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	1.1	°C/W



mm           DIM         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         -           E         9.90         10.39           E4         7.30         -           e         2.54BSC           G         1.25         1.50           H2         -         1.31           L         13.34         14.10		L L3	A		
DIM 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 — E 9.90 10.39 E4 7.30 — e 2.54BSC G 1.25 1.50 H2 — 1.31 L 13.34 14.10			n	nm	1
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 —  E 9.90 10.39  E4 7.30 —  e 2.54BSC  G 1.25 1.50  H2 — 1.31  L 13.34 14.10		DIM		T .	1
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 — E 9.90 10.39 E4 7.30 — e 2.54BSC G 1.25 1.50 H2 — 1.31 L 13.34 14.10	İ	90	-12 19-727	200 100 100	1
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     —       E     9.90     10.39       E4     7.30     —       e     2.54BSC       G     1.25     1.50       H2     —     1.31       L     13.34     14.10	İ				1
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     —       E     9.90     10.39       E4     7.30     —       e     2.54BSC       G     1.25     1.50       H2     —     1.31       L     13.34     14.10	İ	74 (54700c)			1
b2     1.17     1.42       c     0.28     0.53       D     23.20     24.02       D1     8.38     8.90       D2     6.00     —       E     9.90     10.39       E4     7.30     —       e     2.54BSC       G     1.25     1.50       H2     —     1.31       L     13.34     14.10					1
c     0.28     0.53       D     23.20     24.02       D1     8.38     8.90       D2     6.00     -       E     9.90     10.39       E4     7.30     -       e     2.54BSC       G     1.25     1.50       H2     -     1.31       L     13.34     14.10	İ	0.50			1
D 23.20 24.02 D1 8.38 8.90 D2 6.00 — E 9.90 10.39 E4 7.30 — e 2.54BSC G 1.25 1.50 H2 — 1.31 L 13.34 14.10	İ				1
D1     8.38     8.90       D2     6.00     —       E     9.90     10.39       E4     7.30     —       e     2.54BSC       G     1.25     1.50       H2     —     1.31       L     13.34     14.10		77 775	120000000000000000000000000000000000000		1
D2     6.00     —       E     9.90     10.39       E4     7.30     —       e     2.54BSC       G     1.25     1.50       H2     —     1.31       L     13.34     14.10	İ	(1 68Y3):			1
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E4 7.30 — e 2.54BSC G 1.25 1.50 H2 — 1.31 L 13.34 14.10	İ			10.39	1
e 2.54BSC G 1.25 1.50 H2 - 1.31 L 13.34 14.10	İ	7	100000000000000000000000000000000000000		1
G 1.25 1.50 H2 - 1.31 L 13.34 14.10	İ	1779			1
H2 - 1.31 L 13.34 14.10					1
L 13.34 14.10	İ		×		1
	İ	4 0 0 0 0 0	13.34		1
L1   3.30   4.06	İ	L1	3.30	4.06	1
L3 0.95 1.15	İ		75 mire 55/20	CX 2035	1



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IRL540NL

#### **ELECTRICAL CHARACTERISTICS**

T<sub>C</sub>=25℃ unless otherwise specified

10 = 0 = minor of the minor of						
SYMBOL	PARAMETER	CONDITIONS	MIN	ТҮР	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> = 0.25mA	100			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =0.25mA	1.0		2.0	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =18A			44	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±16V;V <sub>DS</sub> =0V			±0.1	μА
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =100V; V <sub>GS</sub> = 0V;Tj=25°C V <sub>DS</sub> =80V; V <sub>GS</sub> = 0V;Tj=125°C			25 250	μА
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =18A, V <sub>GS</sub> = 0 V			1.3	V



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