

## Isc N-Channel MOSFET Transistor

## IRF540ZL

## • FEATURES

- With To-263(D2PAK) 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

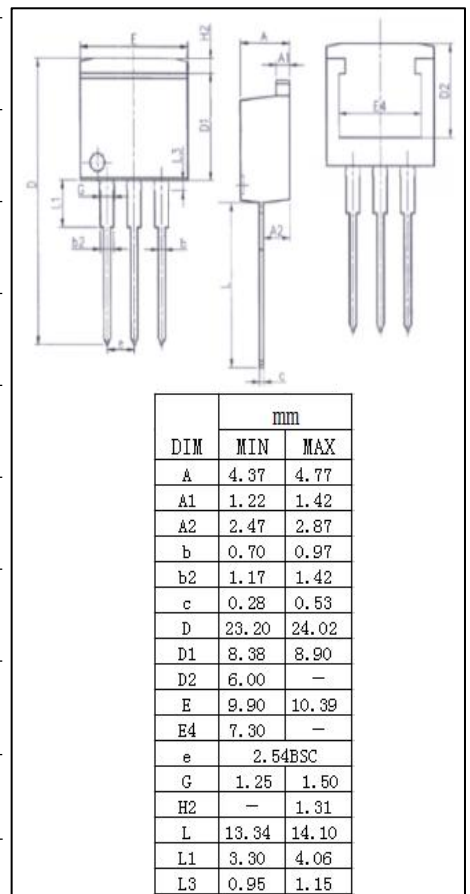
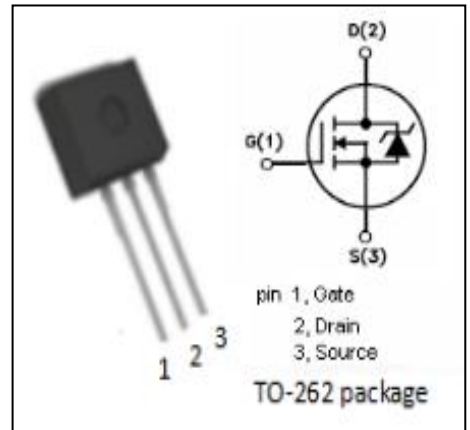
- Switching applications

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

| SYMBOL    | PARAMETER                                                                         | VALUE    | UNIT               |
|-----------|-----------------------------------------------------------------------------------|----------|--------------------|
| $V_{DS}$  | Drain-Source Voltage                                                              | 100      | V                  |
| $V_{GS}$  | Gate-Source Voltage                                                               | $\pm 20$ | V                  |
| $I_D$     | Drain Current-Continuous<br>$T_c=25^{\circ}\text{C}$<br>$T_c=100^{\circ}\text{C}$ | 36<br>25 | A                  |
| $I_{DM}$  | Drain Current-Single Pulsed                                                       | 140      | A                  |
| $P_D$     | Total Dissipation @ $T_c=25^{\circ}\text{C}$                                      | 92       | W                  |
| $T_{ch}$  | Max. 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 | 1.64 | $^{\circ}\text{C/W}$ |



**Isc N-Channel MOSFET Transistor****IRF540ZL****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

| SYMBOL              | PARAMETER                      | CONDITIONS                                                                                                                             | MIN | TYP | 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                                                                              | 2.0 |     | 4.0       | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> = 10V; I <sub>D</sub> =22A                                                                                             |     | 21  | 26.5      | mΩ   |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0V                                                                                           |     |     | ±0.2      | μA   |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> =100V; V <sub>GS</sub> = 0V; T <sub>j</sub> =25°C<br>V <sub>DS</sub> =80V; V <sub>GS</sub> = 0V; T <sub>j</sub> =125°C |     |     | 20<br>250 | μA   |
| V <sub>SDF</sub>    | Diode forward voltage          | I <sub>SD</sub> =22A, V <sub>GS</sub> = 0 V                                                                                            |     |     | 1.3       | V    |

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