

isc N-Channel MOSFET Transistor

FDA24N50F

• FEATURES

- With TO-3PN packaging
- High speed switching
- Standard level gate drive
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

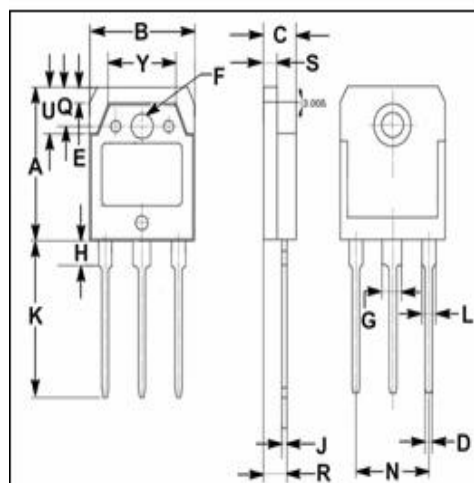
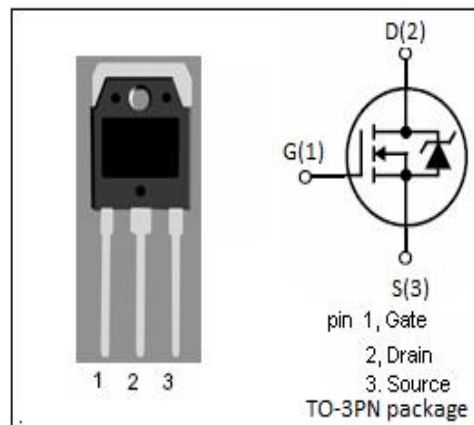
- Power supply
- Switching applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|----------|--------------------|
| V_{DSS} | Drain-Source Voltage | 500 | V |
| V_{GSS} | Gate-Source Voltage | ± 30 | V |
| I_D | Drain Current-Continuous; $T_c=25^{\circ}\text{C}$ $T_c=100^{\circ}\text{C}$ | 24 14 | A |
| I_{DM} | Drain Current-Single Pulsed | 96 | A |
| P_D | Total Dissipation | 270 | W |
| T_j | Operating Junction Temperature | -55~150 | $^{\circ}\text{C}$ |
| T_{stg} | Storage Temperature | -55~150 | $^{\circ}\text{C}$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|----------------|---------------------------------------|------|----------------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance | 0.46 | $^{\circ}\text{C/W}$ |
| $R_{th(ch-a)}$ | Channel-to-ambient thermal resistance | 40 | $^{\circ}\text{C/W}$ |



| DIM | mm | |
|-----|-------|-------|
| | MIN | MAX |
| A | 19.60 | 20.30 |
| B | 15.50 | 15.70 |
| C | 4.70 | 4.90 |
| D | 0.90 | 1.10 |
| E | 1.90 | 2.10 |
| F | 3.40 | 3.60 |
| G | 2.90 | 3.20 |
| H | 3.20 | 3.40 |
| J | 0.595 | 0.605 |
| K | 19.80 | 20.70 |
| L | 1.90 | 2.20 |
| N | 10.89 | 10.91 |
| Q | 4.90 | 5.10 |
| R | 3.35 | 3.45 |
| S | 1.995 | 2.100 |
| U | 5.90 | 6.20 |
| Y | 9.90 | 10.10 |

isc N-Channel MOSFET Transistor**FDA24N50F****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 | 500 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} =10V; I _D =0.25mA | 3.0 | | 5.0 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D =12A | | 0.16 | 0.2 | Ω |
| I _{GSS} | Gate-Source Leakage Current | V _{GS} = ±30V; V _{DS} = 0V | | | ±0.1 | μ A |
| I _{DSS} | Drain-Source Leakage Current | V _{DS} = 500V; V _{GS} = 0V; T _C =25°C V _{DS} = 400V; V _{GS} = 0V; T _C =25°C | | | 1 10 | μ A |
| V _{SDF} | Diode forward voltage | I _{SD} =24A, V _{GS} = 0 V | | | 1.4 | V |

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