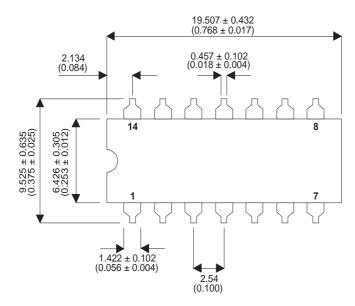




MECHANICAL DATA

Dimensions in mm (inches)



14 LEAD MOULDED DIP PACKAGE

N-CHANNEL N-CHANNEL N-CHANNEL

| 1—Drain 1 | 5—Gate 2 | 8—Drain 3 | 12—Gate 4 |
|------------|------------|-----------|-------------|
| 2—Source 1 | 6—Source 2 | 9—Source3 | 13—Source 4 |
| 3—Gate 1 | 7—Drain 2 | 10—Gate 3 | 14—Drain 4 |

11,4-NC

14 LEAD DUAL IN LINE QUAD N-CHANNEL POWER MOSFETS

BV_{DSS} ±100V

I_{D(cont)} 1A

 $R_{DS(on)}$ 0.7 Ω

FEATURES

- AVALANCHE ENERGY RATED
- HERMETICALLY SEALED
- DYNAMIC dv/dt RATING
- SIMPLE DRIVE REQUIREMENTS
- FOR AUTOMATIC INSERTION
- SIMPLE DRIVE REQUIREMENTS
- EASE OF PARALLELING
- 4 N-CHANNEL CO-PACKAGED HEXFETS
- LIGHTWEIGHT

ABSOLUTE MAXIMUM RATINGS(T_{case} = 25°C unless otherwise stated)

| $\overline{V_{GS}}$ | Gate – Source Voltage | ±20V | | |
|---------------------|--|--------------|--|--|
| I _D | Continuous Drain Current (V _{GS} = 10V , T _{case} = 25°C) | 1.A | | |
| I _D | Continuous Drain Current (V _{GS} = 10V , T _{case} = 100°C) | 0.6A | | |
| I_{DM} | Pulsed Drain Current | 4A | | |
| P_{D} | Power Dissipation @ T _{case} = 25°C | 1.4W | | |
| | Linear Derating Factor | 0.011W/°C | | |
| E _{AS} | Single Pulse Avalanche Energy ² | 75mJ | | |
| dv/dt | Peak Diode Recovery ³ | 5.5V/ns | | |
| T_J , T_stg | Operating and Storage Temperature Range | −55 to 150°C | | |
| $R_{\theta JC}$ | Thermal Resistance Junction to Case | 6.25°C/W | | |
| $R_{\theta JCA}$ | Thermal Resistance Junction-to-Ambient | 175°C/W | | |

Notes

- 1) Pulse Test: Pulse Width $\leq 300 \mu s$, $\delta \leq 2\%$
- 2) @ V_{DD} = 25V , L \geq 112mH , R_G = 25 $\!\Omega$, Peak I_L = 1A , Starting T_J = 25°C
- 3) @ I_{SD} \leq 1A , di/dt \leq 75A/µs , V_DD \leq BV_DSS , T_J \leq 150°C , Suggested R_G = 24 Ω

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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2N7334 IRFG110

ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C unless otherwise stated)

| | Parameter | Test Conditions | | Min. | Тур. | Max. | Unit | | |
|---------------------|---|---|---|------|------------|-----------|-----------------|--|--|
| | STATIC ELECTRICAL RATINGS | | | | | | | | |
| BV _{DSS} | Drain – Source Breakdown Voltage | V _{GS} = 0 | I _D = 1mA | 100 | | | V | | |
| ΔBV_{DSS} | Temperature Coefficient of | Reference to 25°C | | | 0.40 | | V//0C | | |
| ΔT_{J} | Breakdown Voltage | I _D = 1mA | | | 0.13 | | V/°C | | |
| R _{DS(on)} | Static Drain – Source On–State | V _{GS} = 10V | | | 0.70 | | | | |
| | Resistance | V _{GS} = 10V | I _D = 1A | | | 0.80 | \cap Ω | | |
| V _{GS(th)} | Gate Threshold Voltage | $V_{DS} = V_{GS}$ | I _D = 250μA | 2 | | 4 | V | | |
| 9 _{fs} | Forward Transconductance | V _{DS} ≥ 15V | I _{DS} = 0.60A | 0.86 | | | S(\Omega) | | |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{GS} = 0 | $V_{DS} = 0.8V_{DSS}$ $T_{J} = 125^{\circ}C$ | | | 25 250 | μΑ | | |
| I _{GSS} | Forward Gate – Source Leakage | V _{GS} = 20V | -5 | | | 100 | +-+ | | |
| I _{GSS} | Reverse Gate – Source Leakage | $V_{GS} = -20V$ | | | | -100 | nA | | |
| 000 | DYNAMIC CHARACTERISTICS | | | | | | | | |
| C _{iss} | Input Capacitance | V _{GS} = 0 | | | 180 | | | | |
| C _{oss} | Output Capacitance | $V_{DS} = 25V$ f = 1MHz | | | 82 | | pF | | |
| C _{rss} | Reverse Transfer Capacitance | | | | 15 | | | | |
| Q _g | Total Gate Charge | V _{GS} = 10V | I _D = 1A | | | 15 | | | |
| Q _{gs} | Gate - Source Charge | $V_{DS} = 0.5V_{DS}$ | | | | 7.5 | nC | | |
| Q _{gd} | Gate - Drain ("Miller") Charge | | | | | 7.5 | | | |
| t _{d(on)} | Turn-On Delay Time | | | | | 20 | | | |
| t _r | Rise Time | V _{DD} = 50V | | | | 25 | ns | | |
| t _{d(off)} | Turn-Off Delay Time | 1 - | I _D = 1A | | | 40 | | | |
| t _f | Fall Time | $R_G = 24\Omega$ | | | | 40 | 1 | | |
| | SOURCE - DRAIN DIODE CHARAC | TERISTICS | | | | | .1 | | |
| I _S | Continuous Source Current | | | | | 1 | Λ | | |
| I _{SM} | Pulse Source Current ² | | | | | 4 | A | | |
| V _{SD} | Diode Forward Voltage ¹ | $I_S = 1.0A$ $V_{GS} = 0$ | T _J = 25°C | | | 1.5 | V | | |
| t _{rr} | Reverse Recovery Time | I _F = 1A | T _J = 25°C | | | 200 | ns | | |
| Q _{rr} | Reverse Recovery Charge | d _i / d _t ≤ 100A/μs | s V _{DD} ≤ 50V | | | 0.83 | μС | | |
| t _{on} | Forward Turn-On Time | | | | Negligible | | | | |
| | PACKAGE CHARACTERISTICS | | | | | | | | |
| L _D | Internal Drain Inductance (from centre of drain pad to die) | | | | 4.0 | | nH | | |
| L _S | Internal Source Inductance (from centre of source pad to end of source bond wire) | | | | 6.0 | | | | |
| | | | | | | | | | |

Notes

- 1) Pulse Test: Pulse Width $\leq 300 \mu s$, $\delta \leq 2\%$
- 2) Repetitive Rating Pulse width limited by maximum junction temperature.

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