

HiPerFET™ Power MOSFETs ISOPLUS247™

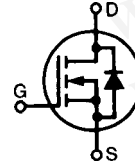
IXFR 26N50Q
 IXFR 24N50Q

| V _{DSS} | I _{D25} | R _{DS(on)} |
|------------------|------------------|---------------------|
| 500 V | 24 A | 0.20 Ω |
| 500 V | 22 A | 0.23 Ω |

t_{rr} ≤ 250 ns

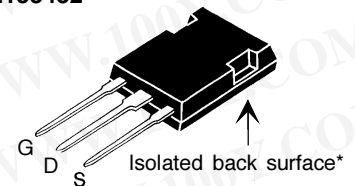
(Electrically Isolated Back Surface)

N-Channel Enhancement Mode
 High dV/dt, Low t_{rr}, HDMOS™ Family



| Symbol | Test Conditions | Maximum Ratings | |
|-------------------|---|-------------------------|------|
| V _{DSS} | T _J = 25°C to 150°C | 500 | V |
| V _{DGR} | T _J = 25°C to 150°C; R _{GS} = 1 MΩ | 500 | V |
| V _{GS} | Continuous | ±20 | V |
| V _{GSM} | Transient | ±30 | V |
| I _{D25} | T _C = 25°C | 26N50Q 24 24N50Q 22 | A |
| I _{DM} | T _C = 25°C, Pulse width limited by T _{JM} | 26N50Q 104 24N50Q 96 | A |
| I _{AR} | T _C = 25°C | 26N50Q 26 24N50Q 24 | A |
| E _{AR} | T _C = 25°C | 30 | mJ |
| E _{AS} | T _C = 25°C | 1.5 | J |
| dv/dt | I _S ≤ I _{DM} , di/dt ≤ 100 A/μs, V _{DD} ≤ V _{DSS} T _J ≤ 150°C, R _G = 2 Ω | 5 | V/ns |
| P _D | T _C = 25°C | 250 | W |
| T _J | | -55 ... +150 | °C |
| T _{JM} | | 150 | °C |
| T _{stg} | | -55 ... +150 | °C |
| T _L | 1.6 mm (0.062 in.) from case for 10 s | 300 | °C |
| V _{ISOL} | 50/60 Hz, RMS t = 1 minute leads-to-tab | 2500 | V~ |
| Weight | | 5 | g |

ISOPLUS247™
 E153432



G = Gate D = Drain
 S = Source

* Patent pending

Features

- Silicon chip on Direct-Copper-Bond substrate
 - High power dissipation
 - Isolated mounting surface
 - 2500V electrical isolation
- Low drain to tab capacitance(<35pF)
- Low R_{DS(on)} HDMOS™ process
- Rugged polysilicon gate cell structure
- Unclamped Inductive Switching (UIS) rated
- Fast intrinsic Rectifier

Applications

- DC-DC converters
- Battery chargers
- Switched-mode and resonant-mode power supplies
- DC choppers
- AC motor control

Advantages

- Easy assembly: no screws, or isolation foils required
- Space savings
- High power density
- Low collector capacitance to ground (low EMI)

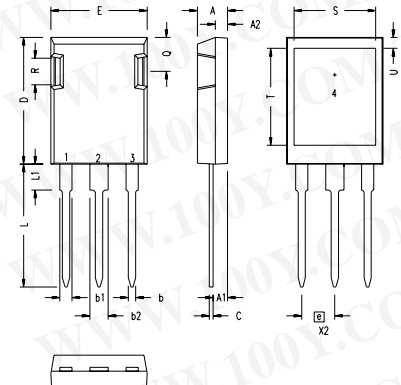
| Symbol | Test Conditions | Characteristic Values (T _J = 25°C, unless otherwise specified) | | |
|---------------------|--|--|------|------------------|
| | | min. | typ. | max. |
| V _{DSS} | V _{GS} = 0 V, I _D = 250μA | 500 | | V |
| V _{GS(th)} | V _{DS} = V _{GS} , I _D = 4mA | 2.5 | | V |
| I _{GSS} | V _{GS} = ±20 V _{DC} , V _{DS} = 0 | | | ±100 nA |
| I _{DSS} | V _{DS} = 0.8 V _{DSS} V _{GS} = 0 V | | | 25 μA 1 mA |
| R _{DS(on)} | V _{GS} = 10 V, I _D = I _T Notes 1 & 2 | | | 0.20 Ω 0.23 Ω |

| Symbol | Test Conditions | Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified) | Characteristic Values | | |
|--------------|--|---|-----------------------|------|------|
| | | | min. | typ. | max. |
| g_{fs} | $V_{DS} = 15\text{ V}; I_D = I_T$ Note 1 | | 14 | 24 | S |
| C_{iss} | $V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$ | | | 3900 | pF |
| C_{oss} | | | | 500 | pF |
| C_{rss} | | | | 130 | pF |
| $t_{d(on)}$ | $V_{GS} = 10\text{ V}, V_{DS} = 0.5 V_{DSS}, I_D = I_T$ $R_G = 1\ \Omega$ (External), | | | 28 | ns |
| t_r | | | | 30 | ns |
| $t_{d(off)}$ | | | | 55 | ns |
| t_f | | | | 16 | ns |
| $Q_{g(on)}$ | $V_{GS} = 10\text{ V}, V_{DS} = 0.5 V_{DSS}, I_D = I_T$ | | | 95 | nC |
| Q_{gs} | | | | 27 | nC |
| Q_{gd} | | | | 40 | nC |
| R_{thJC} | | | | 0.50 | K/W |
| R_{thCK} | | | 0.15 | | K/W |

| Symbol | Test Conditions | Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified) | Characteristic Values | | |
|----------|--|---|-----------------------|------|---------------|
| | | | min. | typ. | max. |
| I_s | $V_{GS} = 0\text{ V}$ | | | 26 | A |
| I_{SM} | Repetitive; pulse width limited by T_{JM} | | | 104 | A |
| V_{SD} | $I_F = I_s, V_{GS} = 0\text{ V}$, Note 1 | | | 1.3 | V |
| t_{rr} | $I_F = I_s, -di/dt = 100\text{ A}/\mu\text{s}$ $V_R = 100\text{ V}$ | $T_J = 25^\circ\text{C}$ | | 250 | ns |
| Q_{RM} | | $T_J = 25^\circ\text{C}$ | 0.85 | 1.5 | μC |
| I_{RM} | | $T_J = 25^\circ\text{C}$ | 8 | | A |
| | | | | | |

- Note: 1. Pulse test, $t \leq 300\ \mu\text{s}$, duty cycle $d \leq 2\%$
 2. I_T test current: IXFR26N50Q $I_T = 13\text{ A}$
 IXFR24N50Q $I_T = 12\text{ A}$
 3. See IXFH26N50Q data sheet for characteristic curves.

ISOPLUS247 OUTLINE



| SYM | INCHES | | MILLIMETERS | |
|-----|----------|------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | .190 | .205 | 4.83 | 5.21 |
| A1 | .090 | .100 | 2.29 | 2.54 |
| A2 | .075 | .085 | 1.91 | 2.16 |
| b | .045 | .055 | 1.14 | 1.40 |
| b1 | .075 | .084 | 1.91 | 2.13 |
| b2 | .115 | .123 | 2.92 | 3.12 |
| C | .024 | .031 | 0.61 | 0.80 |
| D | .819 | .840 | 20.80 | 21.34 |
| E | .620 | .635 | 15.75 | 16.13 |
| e | .215 BSC | | 5.45 BSC | |
| L | .780 | .800 | 19.81 | 20.32 |
| L1 | .150 | .170 | 3.81 | 4.32 |
| Q | .220 | .244 | 5.59 | 6.20 |
| R | .170 | .190 | 4.32 | 4.83 |
| S | .520 | .540 | 13.21 | 13.72 |
| T | .620 | .640 | 15.75 | 16.26 |
| U | .065 | .080 | 1.65 | 2.03 |

- 1 - GATE
- 2 - DRAIN (COLLECTOR)
- 3 - SOURCE (EMITTER)
- 4 - NO CONNECTION

NOTE: This drawing will meet all dimensions requirement of JEDEC outline TO-247AD except screw hole.

勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)