



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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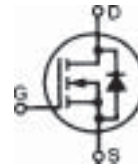
High Voltage MOSFET

N-Channel Enhancement Mode
Avalanche Energy Rated

IXTA 1N80
IXTP 1N80
IXTY 1N80

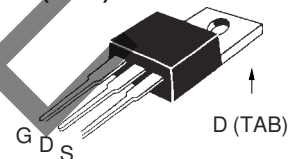
$V_{DSS} = 800 \text{ V}$
 $I_{D25} = 750 \text{ mA}$
 $R_{DS(on)} = 11 \text{ } \Omega$

Preliminary Data

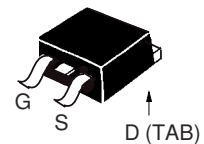


| Symbol | Test Conditions | Maximum Ratings | |
|---|---|-----------------|------------------|
| V_{DSS} | $T_J = 25^\circ\text{C}$ to 150°C | 800 | V |
| V_{DGR} | $T_J = 25^\circ\text{C}$ to 150°C ; $R_{GS} = 1 \text{ M}\Omega$ | 800 | V |
| V_{GS} | Continuous | ± 20 | V |
| V_{GSM} | Transient | ± 30 | V |
| I_{D25} | $T_C = 25^\circ\text{C}$ | 750 | mA |
| I_{DM} | $T_C = 25^\circ\text{C}$, pulse width limited by T_{JM} | 3 | A |
| I_{AR} | | 1.0 | A |
| E_{AR} | $T_C = 25^\circ\text{C}$ | 5 | mJ |
| E_{AS} | $T_C = 25^\circ\text{C}$ | 100 | mJ |
| dv/dt | $I_S \leq I_{DM}$, $di/dt \leq 100 \text{ A}/\mu\text{s}$, $V_{DD} \leq V_{DSS}$, $T_J \leq 150^\circ\text{C}$, $R_G = 47 \text{ } \Omega$ | 3 | V/ns |
| P_D | $T_C = 25^\circ\text{C}$ | 40 | W |
| T_J | | -55 ... +150 | $^\circ\text{C}$ |
| T_{JM} | | 150 | $^\circ\text{C}$ |
| T_{stg} | | -55 ... +150 | $^\circ\text{C}$ |
| M_d | Mounting torque | 1.13/10 | Nm/lb.in. |
| Weight | TO-220 | 4 | g |
| | TO-252 | 0.8 | g |
| | TO-263 | 3 | g |
| Maximum lead temperature for soldering 1.6 mm (0.062 in.) from case for 10 s | | 300 | $^\circ\text{C}$ |

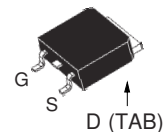
TO-220AB (IXTP)



TO-263 AA (IXTA)



TO-252 AA (IXTY)



G = Gate, D = Drain,
S = Source, TAB = Drain

Features

- International standard packages
- High voltage, Low $R_{DS(on)}$ HDMOS™ process
- Rugged polysilicon gate cell structure
- Fast switching times

Applications

- Switch-mode and resonant-mode power supplies
- Flyback inverters
- DC choppers
- High frequency matching

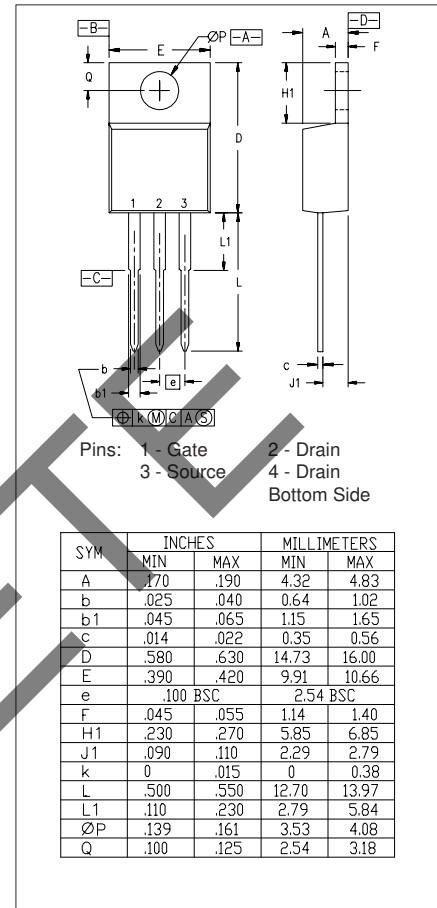
Advantages

- Space savings
- High power density

| Symbol | Test Conditions | Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified) | | |
|--------------|--|---|------|----------------------|
| | | min. | typ. | max. |
| V_{DSS} | $V_{GS} = 0 \text{ V}$, $I_D = 250 \text{ } \mu\text{A}$ | 800 | | V |
| $V_{GS(th)}$ | $V_{DS} = V_{GS}$, $I_D = 25 \text{ } \mu\text{A}$ | 2.5 | | V |
| I_{GSS} | $V_{GS} = \pm 20 \text{ V}_{DC}$, $V_{DS} = 0$ | | | $\pm 100 \text{ nA}$ |
| I_{DSS} | $V_{DS} = V_{DSS}$, $V_{GS} = 0 \text{ V}$ | $T_J = 25^\circ\text{C}$ | | 25 μA |
| | | $T_J = 125^\circ\text{C}$ | | 500 μA |
| $R_{DS(on)}$ | $V_{GS} = 10 \text{ V}$, $I_D = 500 \text{ mA}$ Pulse test, $t \leq 300 \text{ } \mu\text{s}$, duty cycle $d \leq 2 \%$ | 9.5 | 11 | Ω |

| Symbol | Test Conditions | Characteristic Values | | |
|--------------|--|--|------|------|
| | | $(T_J = 25^\circ\text{C}, \text{ unless otherwise specified})$ | | |
| | | min. | typ. | max. |
| g_{fs} | $V_{DS} = 20\text{ V}; I_D = 500\text{ mA}, \text{ pulse test}$ | 0.7 | 0.8 | S |
| C_{iss} | $V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$ | | 220 | pF |
| C_{oss} | | | 23 | pF |
| C_{rss} | | | 4 | pF |
| $t_{d(on)}$ | $V_{GS} = 10\text{ V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 1\text{ A}$ $R_G = 47\Omega, \text{ (External)}$ | | 11 | ns |
| t_r | | | 19 | ns |
| $t_{d(off)}$ | | | 40 | ns |
| t_f | | | 28 | ns |
| $Q_{G(on)}$ | $V_{GS} = 10\text{ V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 1\text{ A}$ | | 8.5 | nC |
| Q_{GS} | | | 2.5 | nC |
| Q_{GD} | | | 4.5 | nC |
| R_{thJC} | | | 3.1 | K/W |
| R_{thCK} | (IXTP) | 0.50 | | K/W |

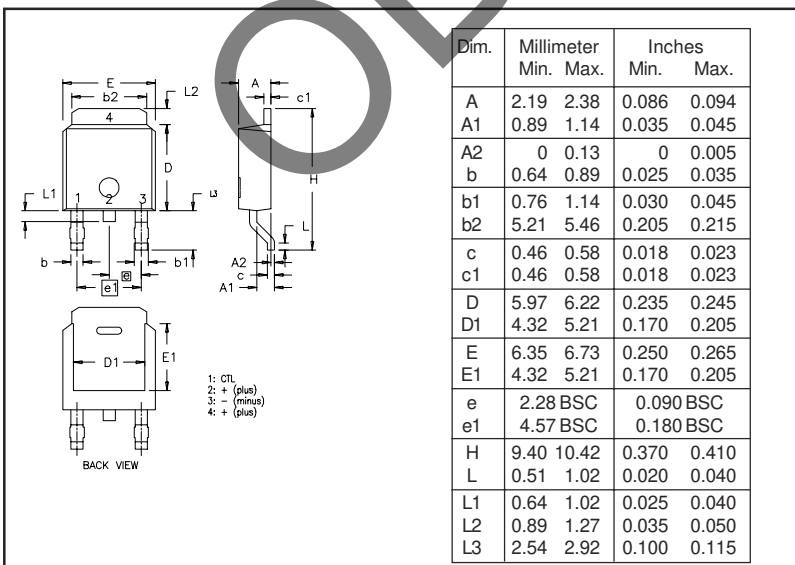
TO-220 AD Dimensions



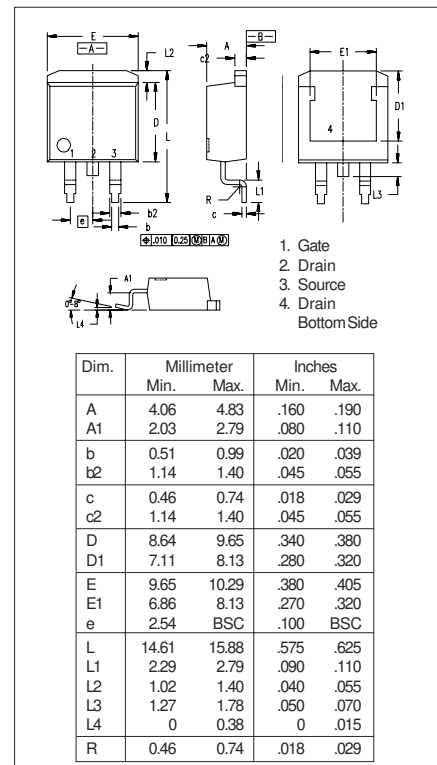
Source-Drain Diode

| Symbol | Test Conditions | Characteristic Values | | |
|----------|--|--|------|--------|
| | | $(T_J = 25^\circ\text{C}, \text{ unless otherwise specified})$ | | |
| | | min. | typ. | max. |
| I_S | $V_{GS} = 0\text{ V}$ | | | 750 mA |
| I_{SM} | Repetitive; pulse width limited by T_{JM} | | | 3 A |
| V_{SD} | $I_F = I_S, V_{GS} = 0\text{ V},$ Pulse test, $t \leq 300\ \mu\text{s}, \text{ duty cycle } d \leq 2\%$ | 1.8 | | 2 V |
| t_{rr} | $I_F = I_S, -di/dt = 100\text{ A}/\mu\text{s}, V_R = 100\text{ V}$ | 710 | | ns |

TO-252 AA Outline



TO-263 AA Outline



IXYS reserves the right to change limits, test conditions, and dimensions.

IXYS MOSFETs and IGBTs are covered by one or more of the following U.S. patents:

| | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-------------|
| 4,835,592 | 4,881,106 | 5,017,508 | 5,049,961 | 5,187,117 | 5,486,715 | 6,306,728B1 |
| 4,850,072 | 4,931,844 | 5,034,796 | 5,063,307 | 5,237,481 | 5,381,025 | |