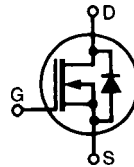


# High Voltage MOSFET

## IXTP 01N100D

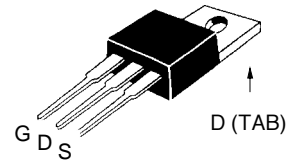
N-Channel, Depletion Mode

$V_{DSS} = 1000 \text{ V}$   
 $I_{D25} = 100 \text{ mA}$   
 $R_{DS(on)} = 110 \text{ } \Omega$



Symbol	Test Conditions	Maximum Ratings	
$V_{DSS}$	$T_J = 25^\circ\text{C}$ to $150^\circ\text{C}$	1000	V
$V_{DGR}$	$T_J = 25^\circ\text{C}$ to $150^\circ\text{C}$ ; $R_{GS} = 1 \text{ M}\Omega$	1000	V
$V_{GS}$	Continuous	$\pm 20$	V
$V_{GSM}$	Transient	$\pm 30$	V
$I_{D25}$	$T_C = 25^\circ\text{C}$ ; $T_J = 25^\circ\text{C}$ to $150^\circ\text{C}$	100	mA
$I_{DM}$	$T_C = 25^\circ\text{C}$ , pulse width limited by $T_J$	400	mA
$P_D$	$T_C = 25^\circ\text{C}$	25	W
	$T_A = 25^\circ\text{C}$	1.1	W
$T_J$		-55 ... +150	$^\circ\text{C}$
$T_{JM}$		150	$^\circ\text{C}$
$T_{stg}$		-55 ... +150	$^\circ\text{C}$
$T_L$	1.6 mm (0.063 in.) from case for 10 s	300	$^\circ\text{C}$
<b>Weight</b>		1	g

TO-220AB (IXTP)



### Features

- Normally ON mode
- Low  $R_{DS(on)}$  HDMOS™ process
- Rugged polysilicon gate cell structure
- Fast switching speed

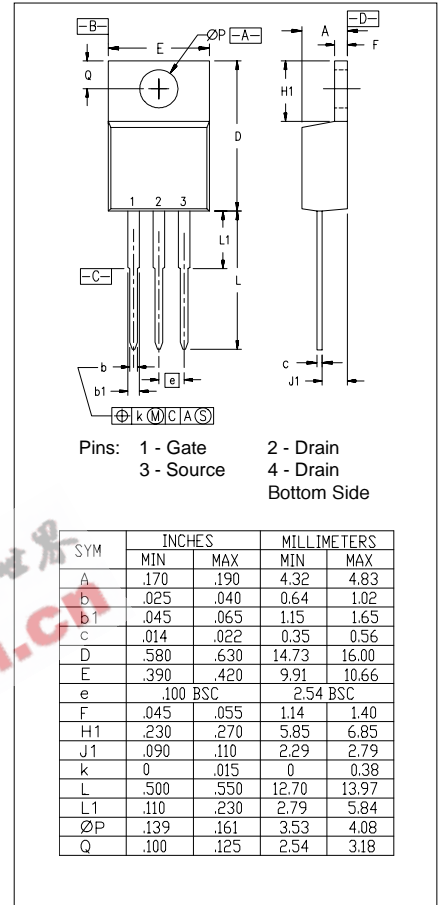
### Applications

- Level shifting
- Triggers
- Solid state relays
- Current regulators

Symbol	Test Conditions	Characteristic Values ( $T_J = 25^\circ\text{C}$ , unless otherwise specified)		
		min.	typ.	max.
$V_{DSS}$	$V_{GS} = -10 \text{ V}$ , $I_D = 25 \text{ } \mu\text{A}$	1000		V
$V_{GS(off)}$	$V_{DS} = 25 \text{ V}$ , $I_D = 25 \text{ } \mu\text{A}$	-2.5		V
$I_{GSS}$	$V_{GS} = \pm 20 V_{DC}$ , $V_{DS} = 0$			$\pm 100 \text{ nA}$
$I_{DSS(off)}$	$V_{DS} = V_{DSS}$ , $V_{GS} = -10 \text{ V}$	$T_J = 25^\circ\text{C}$		10 $\mu\text{A}$
		$T_J = 125^\circ\text{C}$		250 $\mu\text{A}$
$R_{DS(on)}$	$V_{GS} = 0 \text{ V}$ , $I_D = 50 \text{ mA}$ Note 1		90	110 $\Omega$
$I_{D(on)}$	$V_{GS} = 0 \text{ V}$ , $V_{DS} = 50 \text{ V}$ Note 1		250	mA

Symbol	Test Conditions		Characteristic Values			
			(T <sub>J</sub> = 25°C, unless otherwise specified)			
			min.	typ.	max.	
<b>g<sub>fs</sub></b>	V <sub>DS</sub> = 50 V; I <sub>D</sub> = I <sub>D25</sub>	Note 1	100	150	mS	
<b>C<sub>iss</sub></b>	V <sub>GS</sub> = -10 V, V <sub>DS</sub> = 25 V, f = 1 MHz			120	pF	
<b>C<sub>oss</sub></b>				15	pF	
<b>C<sub>rss</sub></b>				3	pF	
<b>t<sub>d(on)</sub></b>	V <sub>gs</sub> = 0 V, to -10 V, I <sub>D</sub> = 50 mA			8	ns	
<b>t<sub>r</sub></b>				6	ns	
<b>t<sub>d(off)</sub></b>			V <sub>ds</sub> = 100 V		30	ns
<b>t<sub>f</sub></b>			R <sub>G</sub> = 30Ω, (External)		51	ns
<b>R<sub>thJC</sub></b>				5	K/W	

### TO-220 AD Dimensions



### Source-Drain Diode

Symbol	Test Conditions		Characteristic Values		
			(T <sub>J</sub> = 25°C, unless otherwise specified)		
			min.	typ.	max.
<b>V<sub>SD</sub></b>	V <sub>GS</sub> = -10 V, I <sub>F</sub> = I <sub>D25</sub>	Note 1		1.0	1.5 V
<b>t<sub>rr</sub></b>	I <sub>F</sub> = 0.75 A, -di/dt = 10 A/μs, V <sub>DS</sub> = 25 V, V <sub>GS</sub> = -10V				1.5 μs

Note 1: Pulse test, t ≤ 300 μs, duty cycle d ≤ 2 %