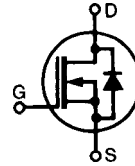


# High Voltage MOSFET

**IXTP 01N100D**

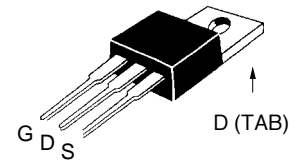
N-Channel, Depletion Mode

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



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	$^\circ\text{C}$
Weight		1	g

TO-220AB (IXTP)



## Features

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

## Applications

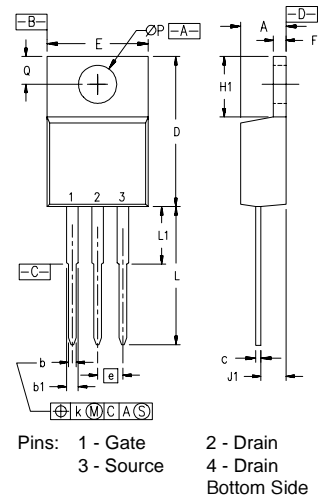
- Level shifting
- Triggers
- Solid state relays
- Current regulators

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		-5 V
$I_{GSS}$	$V_{GS} = \pm 20 \text{ V}_{DC}$ , $V_{DS} = 0$			$\pm 100 \text{ nA}$
$I_{DSS(off)}$	$V_{DS} = V_{DSS}$ , $V_{GS} = -10 \text{ V}$ $T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$			10 $\mu\text{A}$
				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 ( $T_J = 25^\circ\text{C}$ , unless otherwise specified)		
			min.	typ.	max.
$g_{fs}$	$V_{DS} = 50\text{ V}; I_D = I_{D25}$	Note 1	100	150	mS
$C_{iss}$	$V_{GS} = -10\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$			120	pF
$C_{oss}$				15	pF
$C_{rss}$				3	pF
$t_{d(on)}$	$V_{gs} = 0\text{ V, to } -10\text{ V}, I_D = 50\text{ mA}$ $V_{ds} = 100\text{ V}$ $R_G = 30\Omega, \text{ (External)}$			8	ns
$t_r$				6	ns
$t_{d(off)}$				30	ns
$t_f$				51	ns
$R_{thJC}$					5 K/W

Source-Drain Diode		Characteristic Values ( $T_J = 25^\circ\text{C}$ , unless otherwise specified)		
Symbol	Test Conditions	min.	typ.	max.
$V_{SD}$	$V_{GS} = -10\text{ V}, I_F = I_{D25}$	Note 1	1.0	1.5 V
$t_{rr}$	$I_F = 0.75\text{ A}, -di/dt = 10\text{ A}/\mu\text{s},$ $V_{DS} = 25\text{ V}, V_{GS} = -10\text{ V}$			1.5 $\mu\text{s}$

Note 1: Pulse test,  $t \leq 300\text{ }\mu\text{s}$ , duty cycle  $d \leq 2\%$

**TO-220 AD Dimensions**


SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.170	.190	4.32	4.83
b	.025	.040	0.64	1.02
b1	.045	.065	1.15	1.65
c	.014	.022	0.35	0.56
D	.580	.630	14.73	16.00
E	.390	.420	9.91	10.66
e	.100 BSC		2.54 BSC	
F	.045	.055	1.14	1.40
H1	.230	.270	5.85	6.85
J1	.090	.110	2.29	2.79
k	0	.015	0	0.38
L	.500	.550	12.70	13.97
L1	.110	.230	2.79	5.84
ØP	.139	.161	3.53	4.08
Q	.100	.125	2.54	3.18