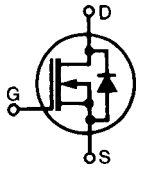
IXYS

High Voltage MOSFET

IXTP 01N100D

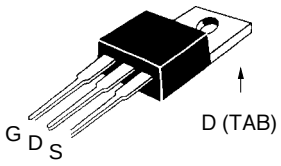
N-Channel, Depletion Mode

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



Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	T_J = 25°C to 150°C	1000	V
V_{DGR}	T_J = 25°C to 150°C; R_{GS} = 1 MΩ	1000	V
V_{GS}	Continuous	±20	V
V_{GSM}	Transient	±30	V
I_{D25}	T_C = 25°C; T_J = 25°C to 150°C	100	mA
I_{DM}	T_C = 25°C, pulse width limited by T_J	400	mA
P_D	T_C = 25°C	25	W
	T_A = 25°C	1.1	W
T_J		-55 ... +150	°C
T_{JM}		150	°C
T_{stg}		-55 ... +150	°C
T_L	1.6 mm (0.063 in.) from case for 10 s	300	°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°C, unless otherwise specified) min.	typ.	max.	
V_{DSS}	V_{GS} = -10 V, I_D = 25 μA	1000			V
$V_{GS(off)}$	V_{DS} = 25V, I_D = 25 μA	-2.5		-5	V
I_{GSS}	V_{GS} = ±20 V_{DC}, V_{DS} = 0			±100	nA
$I_{DSS(off)}$	V_{DS} = V_{DSS}, V_{GS} = -10 V T_J = 25°C			10	μA
	T_J = 125°C			250	μA
$R_{DS(on)}$	V_{GS} = 0 V, I_D = 50 mA Note 1		90	110	Ω
$I_{D(on)}$	V_{GS} = 0 V, V_{DS} = 50V Note 1		250		mA

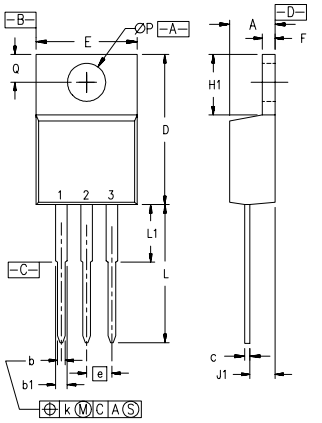
Symbol	Test Conditions (T_J = 25°C, unless otherwise specified)		Characteristic Values min.	typ.	max.	
g_{fs}	V_{DS} = 50 V; I_D = I_{D25}	Note 1	100	150		mS
C_{iss}	V_{GS} = -10 V, V_{DS} = 25 V, f = 1 MHz			120		pF
C_{oss}				15		pF
C_{rss}				3		pF
$t_{d(on)}$	V_{gs} = 0 V, to -10 V, I_D = 50 mA V_{ds} = 100 V R_G = 30Ω, (External)			8		ns
t_r				6		ns
$t_{d(off)}$				30		ns
t_f				51		ns
R_{thJC}					5	K/W

Source-Drain Diode

Symbol	Test Conditions (T_J = 25°C, unless otherwise specified)		Characteristic Values min.	typ.	max.	
V_{SD}	V_{GS} = -10 V, I_F = I_{D25}	Note 1		1.0	1.5	V
t_{rr}	I_F = 0.75 A, -di/dt = 10 A/µs, V_{DS} = 25 V, V_{GS} = -10V				1.5	µs

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

TO-220 AD Dimensions



Pins: 1 - Gate 2 - Drain
3 - Source 4 - Drain
Bottom Side

SYM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS 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