

High Voltage MOSFET

N-Channel, Enhancement Mode

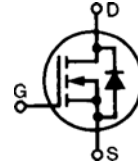
IXTU 01N100

IXTY 01N100

$V_{DSS} = 1000 \text{ V}$

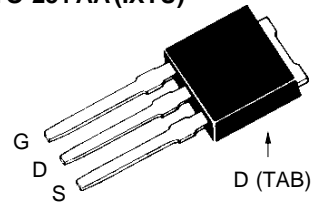
$I_{D25} = 100 \text{ mA}$

$R_{DS(on)} = 80 \ \Omega$

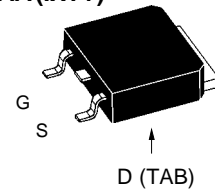


Symbol	Test Conditions	Maximum Ratings 01N100	
V_{DSS}	$T_J = 25^\circ\text{C}$ to 150°C	1000	V
V_{DGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GS} = 1 \text{ M}\Omega$	1000	V
V_{GS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C = 25^\circ\text{C}$; $T_J = 25^\circ\text{C}$ to 150°C	100	mA
I_{DM}	$T_C = 25^\circ\text{C}$, pulse width limited by max. T_J	400	mA
P_D	$T_C = 25^\circ\text{C}$	25	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 5 s	300	$^\circ\text{C}$
Weight		0.8	g

TO-251 AA (IXTU)



TO-252 AA (IXTY)



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

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_{DSS}	$V_{GS} = 0 \text{ V}$, $I_D = 25 \ \mu\text{A}$	1000		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 25 \ \mu\text{A}$	2		4.5 V
I_{GSS}	$V_{GS} = \pm 20 \text{ V}_{DC}$, $V_{DS} = 0$			$\pm 50 \text{ nA}$
I_{DSS}	$V_{DS} = 0.8 \cdot V_{DSS}$, $T_J = 25^\circ\text{C}$ $V_{GS} = 0 \text{ V}$, $T_J = 125^\circ\text{C}$			10 μA 200 μA
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}$, $I_D = I_{D25}$ Pulse test, $t \leq 300 \text{ ms}$, duty cycle $d \leq 2 \%$	60	80	Ω

Features

- International standard packages JEDEC TO-251 AA, TO-252 AA
- Low $R_{DS(on)}$ HDMOS™ process
- Rugged polysilicon gate cell structure
- Fast switching times

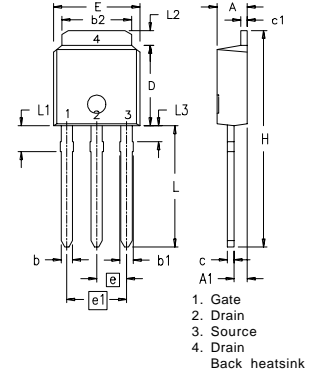
Applications

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

Symbol	Test Conditions	Characteristic Values		
		(T _J = 25°C, unless otherwise specified)		
		min.	typ.	max.
g_{fs}	V _{DS} = 10 V; I _D = 0.5 • I _{D25} , pulse test		140	mS
C_{iss}	V _{GS} = 0 V, V _{DS} = 25 V, f = 1 MHz		60	pF
C_{oss}			7.5	pF
C_{rss}			1.8	pF
t_{d(on)}	V _{GS} = 10 V, V _{DS} = 500 V, I _D = I _{D25} R _G = 50 Ω (External)		12	ns
t_r			12	ns
t_{d(off)}			28	ns
t_f			28	ns
Q_{g(on)}	V _{GS} = 10 V, V _{DS} = 0.5 • V _{DSS} , I _D = 0.5 I _{D25}		8	nC
Q_{gs}			1.8	nC
Q_{gd}			3	nC
R_{thJC}			3	K/W

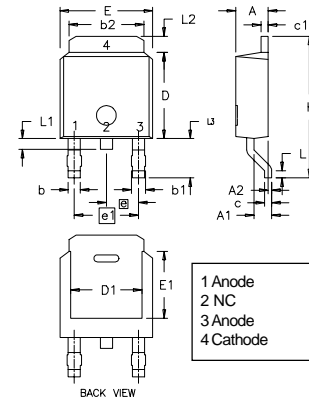
Source-Drain Diode		Characteristic Values		
		(T _J = 25°C, unless otherwise specified)		
Symbol	Test Conditions	min.	typ.	max.
V_{SD}	I _F = 100 mA, V _{GS} = 0 V, Pulse test, t ≤ 300 μs, duty cycle d ≤ 2 %			1.8 V
t_{rr}	I _F = 0.75 A, -di/dt = 10 A/μs, V _{DS} = 25 V			1.5 μs

TO-251 AA Outline



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.19	2.38	.086	.094
A1	0.89	1.14	0.35	.045
b	0.64	0.89	.025	.035
b1	0.76	1.14	.030	.045
b2	5.21	5.46	.205	.215
c	0.46	0.58	.018	.023
c1	0.46	0.58	.018	.023
D	5.97	6.22	.235	.245
E	6.35	6.73	.250	.265
e	2.28	BSC	.090	BSC
e1	4.57	BSC	.180	BSC
H	17.02	17.78	.670	.700
L	8.89	9.65	.350	.380
L1	1.91	2.28	.075	.090
L2	0.89	1.27	.035	.050
L3	1.15	1.52	.045	.060

TO-252 AA



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.19	2.38	0.086	0.094
A1	0.89	1.14	0.035	0.045
A2	0	0.13	0	0.005
b	0.64	0.89	0.025	0.035
b1	0.76	1.14	0.030	0.045
b2	5.21	5.46	0.205	0.215
c	0.46	0.58	0.018	0.023
c1	0.46	0.58	0.018	0.023
D	5.97	6.22	0.235	0.245
D1	4.32	5.21	0.170	0.205
E	6.35	6.73	0.250	0.265
E1	4.32	5.21	0.170	0.205
e	2.28	BSC	0.090	BSC
e1	4.57	BSC	0.180	BSC
H	9.40	10.42	0.370	0.410
L	0.51	1.02	0.020	0.040
L1	0.64	1.02	0.025	0.040
L2	0.89	1.27	0.035	0.050
L3	2.54	2.92	0.100	0.115

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