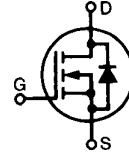


IXTH 13N110

MegaMOS™ FET

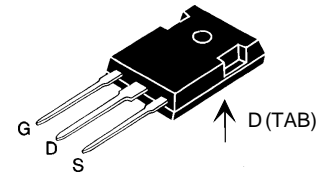
N-Channel Enhancement Mode



$V_{DSS} = 1100\text{ V}$
 $I_{D25} = 13\text{ A}$
 $R_{DS(on)} = 0.92\ \Omega$

Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C}$ to 150°C	1100	V
V_{DGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GS} = 1\text{ M}\Omega$	1100	V
V_{GS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C = 25^\circ\text{C}$	13	A
I_{DM}	$T_C = 25^\circ\text{C}$, pulse width limited by T_{JM}	52	A
P_D	$T_C = 25^\circ\text{C}$	360	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		6	g
Maximum lead temperature for soldering 1.6 mm (0.062 in.) from case for 10 s		300	$^\circ\text{C}$

TO-247 AD



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

Features

- International standard package JEDEC TO-247 AD
- Low $R_{DS(on)}$ HDMOS™ process
- Rugged polysilicon gate cell structure
- Fast switching times

Applications

- Switch-mode and resonant-mode power supplies
- Motor controls
- Uninterruptible Power Supplies (UPS)
- DC choppers

Advantages

- Easy to mount with 1 screw (isolated mounting screw hole)
- Space savings
- High power density

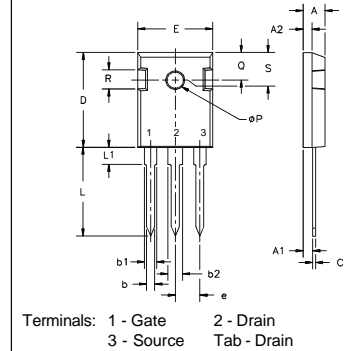
Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_{DSS}	$V_{GS} = 0\text{ V}$, $I_D = 3\text{ mA}$	1100		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250\ \mu\text{A}$	2		4.5 V
I_{GSS}	$V_{GS} = \pm 20\text{ V}_{DC}$, $V_{DS} = 0$			$\pm 100\text{ nA}$
I_{DSS}	$V_{DS} = 0.8 \cdot V_{DSS}$ $V_{GS} = 0\text{ V}$			500 μA 3 mA
$R_{DS(on)}$	$V_{GS} = 10\text{ V}$, $I_D = 0.5 \cdot I_{D25}$ Pulse test, $t \leq 300\ \mu\text{s}$, duty cycle $d \leq 2\%$	0.80	0.92	Ω

Symbol	Test Conditions	Characteristic Values		
		(T _J = 25°C, unless otherwise specified)		
		min.	typ.	max.
g_{fs}	V _{DS} = 10 V; I _D = 6.5 A, pulse test		10	S
C_{iss}	V _{GS} = 0 V, V _{DS} = 25 V, f = 1 MHz		5650	pF
C_{oss}			400	pF
C_{rss}			150	pF
t_{d(on)}	V _{GS} = 10 V, V _{DS} = 0.5 • V _{DSS} , I _D = 0.5 I _{D25} R _G = 1 Ω, (External)		24	ns
t_r			21	ns
t_{d(off)}			80	ns
t_f			36	ns
Q_{g(on)}	V _{GS} = 10 V, V _{DS} = 0.5 • V _{DSS} , I _D = 0.5 I _{D25}		195	nC
Q_{gs}			28	nC
Q_{gd}			85	nC
R_{thJC}			0.35	K/W
R_{thCK}		0.25		K/W

Source-Drain Diode

Symbol	Test Conditions	Characteristic Values		
		(T _J = 25°C, unless otherwise specified)		
		min.	typ.	max.
I_S	V _{GS} = 0 V			13 A
I_{SM}	Repetitive; pulse width limited by T _{JM}			52 A
V_{SD}	I _F = I _S , V _{GS} = 0 V, Pulse test, t ≤ 300 μs, duty cycle d ≤ 2 %			1.5 V
t_{rr}	I _F = I _S , -di/dt = 100 A/μs, V _R = 100 V		850	ns

TO-247 AD Outline



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.7	5.3	.185	.209
A ₁	2.2	2.54	.087	.102
A ₂	2.2	2.6	.059	.098
b	1.0	1.4	.040	.055
b ₁	1.65	2.13	.065	.084
b ₂	2.87	3.12	.113	.123
C	.4	.8	.016	.031
D	20.80	21.46	.819	.845
E	15.75	16.26	.610	.640
e	5.20	5.72	0.205	0.225
L	19.81	20.32	.780	.800
L1		4.50		.177
∅P	3.55	3.65	.140	.144
Q	5.89	6.40	0.232	0.252
R	4.32	5.49	.170	.216
S	6.15	BSC	242	BSC