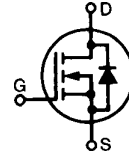


MegaMOS™ FET

IRFP 360

$V_{DSS} = 400 \text{ V}$
 $I_{D25} = 23 \text{ A}$
 $R_{DS(on)} = 0.20 \text{ } \Omega$

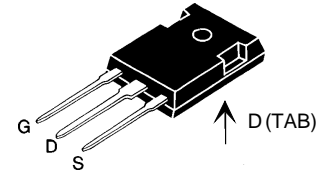
N-Channel Enhancement Mode



Preliminary data

Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C}$ to 150°C	400	V
V_{DGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GS} = 1.0 \text{ M}\Omega$	400	V
V_{GS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C = 25^\circ\text{C}$	23	A
I_{D100}	$T_C = 100^\circ\text{C}$	14	A
I_{DM}	$T_C = 25^\circ\text{C}$, pulse width limited by T_{JM}	92	A
I_{AR}		23	A
E_{AR}	$T_C = 25^\circ\text{C}$	30	mJ
dv/dt	$I_S \leq I_{DM}$, di/dt $T_J \leq 150^\circ\text{C}$, $R_G = 2 \text{ } \Omega$	5	V/ns
P_D	$T_C = 25^\circ\text{C}$	300	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
Max lead temperature for soldering		300	$^\circ\text{C}$
1.6 mm (0.062 in.) from case for 10 s			

TO-247 AD



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

Features

- Fast switching times
- International standard packages
- Low $R_{DS(on)}$ HDMOS™ process
- Rugged polysilicon gate cell structure
- High commutating dv/dt rating

Applications

- DC choppers
- Motor Controls
- Switch-mode and resonant-mode
- Uninterruptable power supplies (UPS)

Advantages

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

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_{DSS}	$V_{GS} = 0 \text{ V}$, $I_D = 250 \text{ } \mu\text{A}$	400		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250 \text{ } \mu\text{A}$	2		4 V
I_{GSS}	$V_{GS} = \pm 20 \text{ V}_{DC}$, $V_{DS} = 0$			$\pm 100 \text{ nA}$
I_{DSS}	$V_{DS} = V_{DSS}$ $V_{GS} = 0 \text{ V}$	$T_J = 25^\circ\text{C}$		25 μA
		$T_J = 125^\circ\text{C}$		250 μA
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}$, $I_D = 14 \text{ A}$ Pulse test, $t \leq 300 \text{ } \mu\text{s}$, duty cycle $d \leq 2\%$			0.20 Ω

This data reflects the objective technical specification and characterization data from engineering lots.

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

95509A (4/95)

© 2000 IXYS All rights reserved

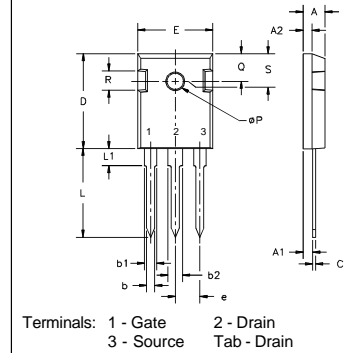
1 - 2

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
g_{fs}	$V_{DS} = 10\text{ V}; I_D = 14\text{ A}$, pulse test	14		S
C_{iss}	$V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$		4500	pF
C_{oss}			1100	pF
C_{rss}			490	pF
$t_{d(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 V_{DSS}, I_D = I_{D25}$ $R_G = 4.3\ \Omega$ (External)		24	ns
t_r			33	ns
$t_{d(off)}$			100	ns
t_f			30	ns
$Q_{g(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 V_{DSS}, I_D = I_{D25}$		210	nC
Q_{gs}			30	nC
Q_{gd}			110	nC
R_{thJC}			0.45	K/W
R_{thCK}		0.25		K/W

Source-Drain Diode

Symbol	Test Conditions	Ratings and Characteristics ($T_J = 25^\circ\text{C}$ unless otherwise specified)		
		Min.	Typ.	Max.
I_S	$V_{GS} = 0$			23 A
I_{SM}	Repetitive; pulse width limited by T_{JM}			92 A
V_{SD}	$I_F = I_S, V_{GS} = 0\text{ V}$, Pulse test, $t \leq 300\ \mu\text{s}$, duty cycle $d \leq 2\%$			1.8 V
t_{rr}	$I_F = I_S, -di/dt = 100\text{ A}/\mu\text{s}$		420	630 ns
Q_{rr}			5.6	8.4 μC

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