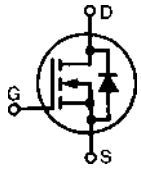
IXYS

Standard Power MOSFET

IRFP 260

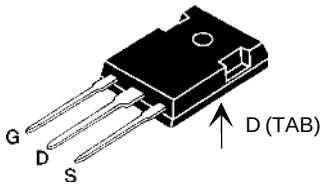
V_{DSS} = 200 V
$I_{D(cont)}$ = 46 A
$R_{DS(on)}$ = 55 mΩ

N-Channel Enhancement Mode



Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	T_J = 25°C to 150°C	200	V
V_{DGR}	T_J = 25°C to 150°C; R_{GS} = 1 MΩ	200	V
V_{GS}	Continuous	±20	V
V_{GSM}	Transient	±30	V
I_{D25}	T_C = 25°C	46	A
I_{DM}	T_C = 25°C, pulse width limited by T_{JM}	184	A
I_{AR}		46	A
E_{AR}	T_C = 25°C	28	mJ
dv/dt	$I_S \le I_{DM}$, di/dt ≤ 100 A/µs, $V_{DD} \le V_{DSS}$, $T_J \le 150°C$, R_G = 2 Ω	5	V/ns
P_D	T_C = 25°C	280	W
T_J		-55 ... +150	°C
T_{JM}		150	°C
T_{stg}		-55 ... +150	°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	°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
- High commutating dv/dt rating
- 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

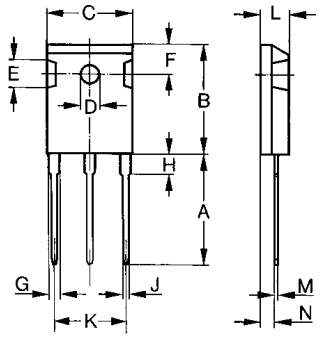
Symbol	Test Conditions	Characteristic Values (T_J = 25°C, unless otherwise specified) min.	typ.	max.	
V_{DSS}	V_{GS} = 0 V, I_D = 250 µA	200			V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, I_D = 250 µA	2		4	V
I_{GSS}	V_{GS} = ±20 V_{DC}, V_{DS} = 0			±100	nA
I_{DSS}	V_{DS} = 200V, T_J = 25°C			25	µA
	V_{DS} = 160V, T_J = 125°C			250	µA
	V_{GS} = 0 V				
$R_{DS(on)}$	V_{GS} = 10 V, I_D = 28 A; Pulse test, t ≤ 300 µs, duty cycle d ≤ 2 %			0.055	Ω

Symbol	Test Conditions (T_J = 25°C, unless otherwise specified)	min.	typ.	max.	
g_{fs}	V_{DS} = 10 V; I_D = 28 A, pulse test	24	34		S
C_{iss}	V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz		3900		pF
C_{oss}			760		pF
C_{rss}			320		pF
$t_{d(on)}$	V_{GS} = 10 V, V_{DS} = 100 V_{DSS}, I_D = 46A R_G = 4.3 Ω (External)		23		ns
t_r			30		ns
$t_{d(off)}$			90		ns
t_f			28		ns
$Q_{g(on)}$	V_{GS} = 10 V, V_{DS} = 0.5 • V_{DSS}, I_D = 0.5 I_{D25}		230		nC
Q_{gs}			42		nC
Q_{gd}			110		nC
R_{thJC}				0.45	K/W
R_{thCK}			0.24		K/W

Source-Drain Diode

Symbol	Test Conditions (T_J = 25°C, unless otherwise specified)	min.	typ.	max.	
I_S	V_{GS} = 0 V			46	A
I_{SM}	Repetitive; pulse width limited by T_{JM}			180	A
V_{SD}	$I_F = I_S$, V_{GS} = 0 V, Pulse test, t ≤ 300 µs, duty cycle d ≤ 2 %			1.8	V
t_{rr}	I_F = 0.5 I_S, -di/dt = 100 A/µs, V_R = 100 V		260	590	ns
Q_{rr}			2.34	7.2	uC

TO-247 AD (IXTH) Outline



Dim.	Millimeter Min.	Max.	Inches Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.610	0.640
D	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102