IXYS

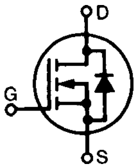
HiPerFET™ Power MOSFETs
Q-Class

IXFH 26N60Q
IXFT 26N60Q

V_{DSS} = 600 V
I_{D25} = 26 A
$R_{DS(on)}$ = 0.25 Ω

$t_{rr} \leq 250$ ns

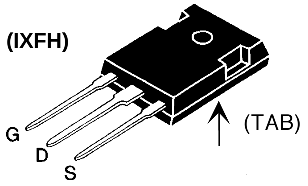
N-Channel Enhancement Mode
Avalanche Rated, High dv/dt, Low Q_g



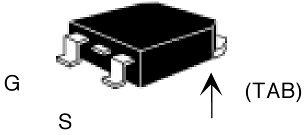
Symbol	Test Conditions		Maximum Ratings	
V_{DSS}	T_J = 25°C to 150°C		600	V
V_{DGR}	T_J = 25°C to 150°C; R_{GS} = 1 MΩ		600	V
V_{GS}	Continuous		±20	V
V_{GSM}	Transient		±30	V
I_{D25}	T_C = 25°C		26	A
I_{DM}	T_C = 25°C, pulse width limited by T_{JM}		104	A
I_{AR}	T_C = 25°C		26	A
E_{AR}	T_C = 25°C		45	mJ
E_{AS}	T_C = 25°C		1.5	J
dv/dt	$I_S \leq I_{DM}$, di/dt ≤ 100 A/µs, $V_{DD} \leq V_{DSS}$, $T_J \leq 150$°C, R_G = 2 Ω		5	V/ns
P_D	T_C = 25°C		360	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
M_d	Mounting torque	TO-247	1.13/10	Nm/lb.in.
Weight		TO-247	6	g
		TO-268	4	g

Symbol	Test Conditions		Characteristic Values (T_J = 25°C, unless otherwise specified) min.	typ.	max.	
V_{DSS}	V_{GS} = 0 V, I_D = 250µA		600			V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, I_D = 4 mA		2.5		4.5	V
I_{GSS}	V_{GS} = ±20 V_{DC}, V_{DS} = 0				±200	nA
I_{DSS}	$V_{DS} = V_{DSS}$	T_J = 25°C			25	µA
	V_{GS} = 0 V	T_J = 125°C			1	mA
$R_{DS(on)}$	V_{GS} = 10 V, I_D = 0.5 I_{D25} Pulse test, t ≤ 300 µs, duty cycle d ≤ 2 %				0.25	Ω

TO-247 AD (IXFH)



TO-268 (D3) (IXFT)



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

Features

- Low gate charge
- International standard packages
- Epoxy meet UL 94 V-0, flammability classification
- Low $R_{DS\ (on)}$ HDMOS™ process
- Rugged polysilicon gate cell structure
- Avalanche energy and current rated
- Fast intrinsic Rectifier

Advantages

- Easy to mount
- Space savings
- High power density

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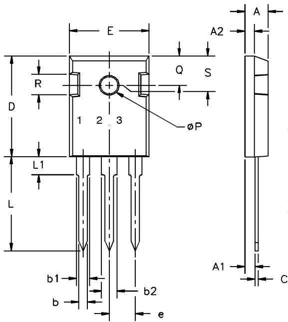
Symbol	Test Conditions (T$_J$ = 25°C, unless otherwise specified)	Characteristic Values min.	typ.	max.	
g_{fs}	V_{DS} = 10 V; I_D = 0.5 I_{D25}, pulse test	14	22		S
C_{iss}	V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz		5100		pF
C_{oss}			560		pF
C_{rss}			210		pF
$t_{d(on)}$	V_{GS} = 10 V, V_{DS} = 0.5 V_{DSS}, I_D = 0.5 I_{D25} R_G = 2.0 Ω (External),		30		ns
t_r			32		ns
$t_{d(off)}$			80		ns
t_f			16		ns
$Q_{g(on)}$	V_{GS} = 10 V, V_{DS} = 0.5 V_{DSS}, I_D = 0.5 I_{D25}		150	200	nC
Q_{gs}			34		nC
Q_{gd}			80		nC
R_{thJC}				0.35	K/W
R_{thCK}	TO-247		0.25		K/W

Source-Drain Diode

Symbol	Test Conditions (T$_J$ = 25°C, unless otherwise specified)	Characteristic Values min.	typ.	max.	
I_S	V_{GS} = 0 V			26	A
I_{SM}	Repetitive; pulse width limited by T_{JM}			104	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			250	ns
Q_{RM}			1		μC
I_{RM}			10		A

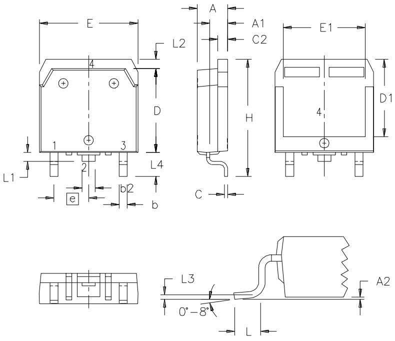
TO-247 AD (IXFH) Outline



Terminals:
1 - Gate
2 - Drain
3 - Source
Tab - Drain

Dim.	Millimeter Min.	Max.	Inches 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

TO-268 Outline



Terminals:
1 - Gate
2 - Drain
3 - Source
Tab - Drain

SYM	INCHES MIN	MAX	MILLIMETERS MIN	MAX
A	.193	.201	4.90	5.10
A1	.106	.114	2.70	2.90
A2	.001	.010	0.02	0.25
b	.045	.057	1.15	1.45
b2	.075	.083	1.90	2.10
C	.016	.026	0.40	0.65
C2	.057	.063	1.45	1.60
D	.543	.551	13.80	14.00
D1	.488	.500	12.40	12.70
E	.624	.632	15.85	16.05
E1	.524	.535	13.30	13.60
e	.215 BSC		5.45 BSC	
H	.736	.752	18.70	19.10
L	.094	.106	2.40	2.70
L1	.047	.055	1.20	1.40
L2	.039	.045	1.00	1.15
L3	.010 BSC		0.25 BSC	
L4	.150	.161	3.80	4.10

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

IXYS MOSFETs and IGBTs are covered by one or more of the following U.S. patents: 4,835,592 4,881,106 5,017,508 5,049,961 5,187,117 5,486,715 6,306,728B1
4,850,072 4,931,844 5,034,796 5,063,307 5,237,481 5,381,025

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