

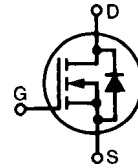
# HiPerFET™ Power MOSFETs Q-Class

**IXFH 26N60Q**  
**IXFT 26N60Q**

**V<sub>DSS</sub> = 600 V**  
**I<sub>D25</sub> = 26 A**  
**R<sub>DS(on)</sub> = 0.25 Ω**

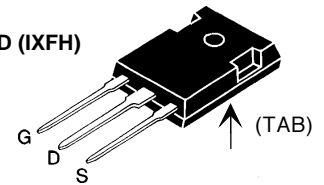
**t<sub>rr</sub> ≤ 250 ns**

N-Channel Enhancement Mode  
Avalanche Rated, High dv/dt, Low Q<sub>g</sub>

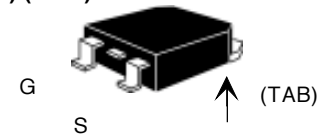


Symbol	Test Conditions	Maximum Ratings	
V <sub>DSS</sub>	T <sub>J</sub> = 25°C to 150°C	600	V
V <sub>DGR</sub>	T <sub>J</sub> = 25°C to 150°C; R <sub>GS</sub> = 1 MΩ	600	V
V <sub>GS</sub>	Continuous	±20	V
V <sub>GSM</sub>	Transient	±30	V
I <sub>D25</sub>	T <sub>C</sub> = 25°C	26	A
I <sub>DM</sub>	T <sub>C</sub> = 25°C, pulse width limited by T <sub>JM</sub>	104	A
I <sub>AR</sub>	T <sub>C</sub> = 25°C	26	A
E <sub>AR</sub>	T <sub>C</sub> = 25°C	45	mJ
E <sub>AS</sub>	T <sub>C</sub> = 25°C	1.5	J
dv/dt	I <sub>S</sub> ≤ I <sub>DM</sub> , di/dt ≤ 100 A/μs, V <sub>DD</sub> ≤ V <sub>DSS</sub> , T <sub>J</sub> ≤ 150°C, R <sub>G</sub> = 2 Ω	5	V/ns
P <sub>D</sub>	T <sub>C</sub> = 25°C	360	W
T <sub>J</sub>		-55 ... +150	°C
T <sub>JM</sub>		150	°C
T <sub>stg</sub>		-55 ... +150	°C
T <sub>L</sub>	1.6 mm (0.063 in) from case for 10 s	300	°C
M <sub>d</sub>	Mounting torque	TO-247	1.13/10 Nm/lb.in.
Weight		TO-247	6 g
		TO-268	4 g

TO-247 AD (IXFH)



TO-268 (D3) (IXFT)



G = Gate  
S = Source

D = Drain  
TAB = Drain

## Features

- Low gate charge
- International standard packages
- Epoxy meet UL 94 V-0, flammability classification
- Low R<sub>DS(on)</sub> HDMOS™ process
- Rugged polysilicon gate cell structure
- Avalanche energy and current rated
- Fast intrinsic Rectifier

## Advantages

- Easy to mount
- Space savings
- High power density

Symbol	Test Conditions	Characteristic Values (T <sub>J</sub> = 25°C, unless otherwise specified)		
		min.	typ.	max.
V <sub>DSS</sub>	V <sub>GS</sub> = 0 V, I <sub>D</sub> = 250 μA	600		V
V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 4 mA	2.5		4.5 V
I <sub>GSS</sub>	V <sub>GS</sub> = ±20 V <sub>DC</sub> , V <sub>DS</sub> = 0			±200 nA
I <sub>DSS</sub>	V <sub>DS</sub> = V <sub>DSS</sub> , V <sub>GS</sub> = 0 V			25 μA 1 mA
R <sub>DS(on)</sub>	V <sub>GS</sub> = 10 V, I <sub>D</sub> = 0.5 I <sub>D25</sub> Pulse test, t ≤ 300 μs, duty cycle d ≤ 2 %			0.25 Ω

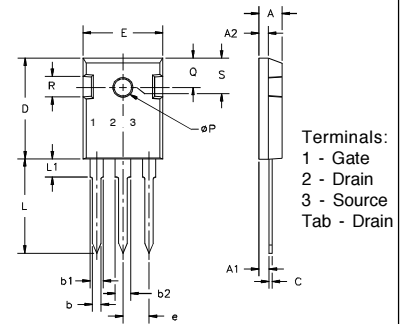
Symbol	Test Conditions	Characteristic Values ( $T_J = 25^\circ\text{C}$ , unless otherwise specified)		
		min.	typ.	max.
$g_{fs}$	$V_{DS} = 10\text{ V}$ , $I_D = 0.5\text{ I}_{D25}$ , pulse test	14	22	S
$C_{iss}$	$V_{GS} = 0\text{ V}$ , $V_{DS} = 25\text{ V}$ , $f = 1\text{ MHz}$		5100	pF
$C_{oss}$	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

### Source-Drain Diode

Characteristic Values  
( $T_J = 25^\circ\text{C}$ , unless otherwise specified)

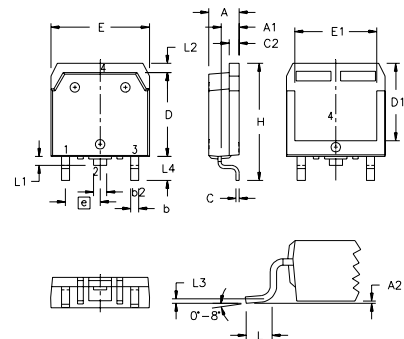
Symbol	Test Conditions	min.	typ.	max.
$I_S$	$V_{GS} = 0\text{ V}$			26 A
$I_{SM}$	Repetitive; pulse width limited by $T_{JM}$			104 A
$V_{SD}$	$I_F = I_S$ , $V_{GS} = 0\text{ V}$ , Pulse test, $t \leq 300\ \mu\text{s}$ , duty cycle $d \leq 2\%$			1.5 V
$t_{rr}$	$I_F = I_S$ , $-di/dt = 100\text{ A}/\mu\text{s}$ , $V_R = 100\text{ V}$		1	250 ns
$Q_{RM}$			10	$\mu\text{C}$
$I_{RM}$				A

### TO-247 AD (IXFH) Outline



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.7	5.3	.185	.209
A <sub>1</sub>	2.2	2.54	.087	.102
A <sub>2</sub>	2.2	2.6	.087	.102
b	1.0	1.4	.040	.055
b <sub>1</sub>	1.65	2.13	.065	.084
b <sub>2</sub>	2.87	3.12	.113	.123
C	4	8	.16	.31
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
L <sub>1</sub>		4.50		.177
$\varnothing P$	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		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.193	.201	4.90	5.10
A <sub>1</sub>	.106	.114	2.70	2.90
A <sub>2</sub>	.001	.010	0.02	0.25
b	.045	.057	1.15	1.45
b <sub>2</sub>	.075	.083	1.90	2.10
C	.016	.026	0.40	0.65
C <sub>2</sub>	.057	.063	1.45	1.60
D	.543	.551	13.80	14.00
D <sub>1</sub>	.488	.500	12.40	12.70
E	.624	.632	15.85	16.05
E <sub>1</sub>	.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
L <sub>1</sub>	.047	.055	1.20	1.40
L <sub>2</sub>	.039	.045	1.00	1.15
L <sub>3</sub>	.010	BSC	0.25	BSC
L <sub>4</sub>	.150	.161	3.80	4.10

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



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