

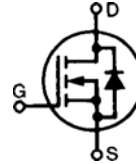
# HiPerFET™ Power MOSFETs Q-Class

**IXFH 26N55Q**  
**IXFT 26N55Q**

**V<sub>DSS</sub> = 550 V**  
**I<sub>D25</sub> = 26 A**  
**R<sub>DS(on)</sub> = 0.23 Ω**

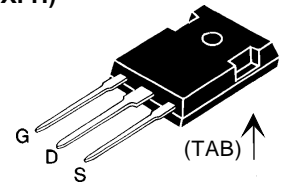
**t<sub>rr</sub> ≤ 250 ns**

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

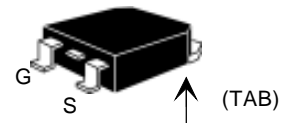


Symbol	Test Conditions	Maximum Ratings	
V <sub>DSS</sub>	T <sub>J</sub> = 25°C to 150°C	550	V
V <sub>DGR</sub>	T <sub>J</sub> = 25°C to 150°C; R <sub>GS</sub> = 1 MΩ	550	V
V <sub>GS</sub>	Continuous	±30	V
V <sub>GSM</sub>	Transient	±40	V
I <sub>D25</sub>	T <sub>C</sub> = 25°C	26	A
I <sub>DM</sub>	T <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	50	mJ
E <sub>AS</sub>		2.0	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	20	V/ns
P <sub>D</sub>	T <sub>C</sub> = 25°C	375	W
T <sub>J</sub>		-55 to +150	°C
T <sub>JM</sub>		150	°C
T <sub>stg</sub>		-55 to +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	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    D = Drain  
S = Source    TAB = Drain

## Features

- IXYS advanced low Q<sub>g</sub> process
- Low gate charge and capacitances
  - easier to drive
  - faster switching
- International standard packages
- Low R<sub>DS(on)</sub>
- Rated for unclamped Inductive load switching (UIS) rated
- Molding epoxies meet UL 94 V-0 flammability classification

## Advantages

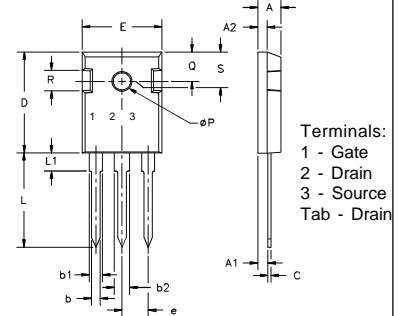
- Easy to mount
- Space savings
- High power density

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	550		V
V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 4 mA	2.5		V
I <sub>GSS</sub>	V <sub>GS</sub> = ±30 V <sub>DC</sub> , V <sub>DS</sub> = 0			±100 nA
I <sub>DSS</sub>	V <sub>DS</sub> = V <sub>DSS</sub> , T <sub>J</sub> = 25°C V <sub>GS</sub> = 0 V, T <sub>J</sub> = 125°C			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 %			0.23 Ω

Symbol	Test Conditions	Characteristic Values ( $T_j = 25^\circ\text{C}$ , unless otherwise specified)			
		min.	typ.	max.	
$g_{fs}$	$V_{DS} = 20\text{ V}; I_D = 0.5 \cdot I_{D25}$ , pulse test	16	22	S	
$C_{iss}$	$V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$		3000	pF	
$C_{oss}$				420	pF
$C_{rss}$				120	pF
$t_{d(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 0.5 \cdot I_{D25}$ $R_G = 2.0\ \Omega$ (External),		17	ns	
$t_r$				18	ns
$t_{d(off)}$				50	ns
$t_f$				13	ns
$Q_{g(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 0.5 \cdot I_{D25}$		92	nC	
$Q_{gs}$				22	nC
$Q_{gd}$				44	nC
$R_{thJC}$	(TO-247)		0.25	0.33 K/W	
$R_{thCK}$				K/W	

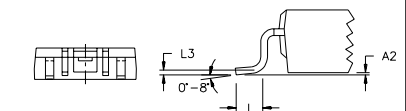
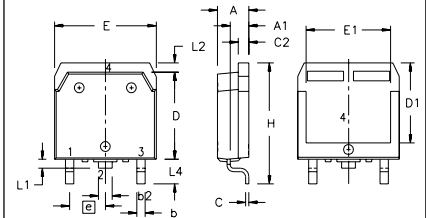
Symbol	Test Conditions	Characteristic Values ( $T_j = 25^\circ\text{C}$ , unless otherwise specified)		
		min.	typ.	max.
$I_S$	$V_{GS} = 0\text{ V}$			26 A
$I_{SM}$	Repetitive; pulse width limited by $T_{JM}$			104 A
$V_{SD}$	$I_F = I_S, V_{GS} = 0\text{ V}$ , Pulse test, $t \leq 300\ \mu\text{s}$ , duty cycle $d \leq 2\%$			1.5 V
$t_{rr}$	$I_F = I_S, -di/dt = 100\text{ A}/\mu\text{s}, V_R = 100\text{ V}$		1.0	250 ns
$Q_{RM}$				$\mu\text{C}$
$I_{RM}$				10 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	.059	.098
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	.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		MILLIMETERS	
	MIN	MAX	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