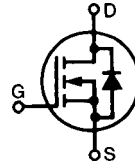


# HiPerFET™ Power MOSFETs Q-Class

**IXFH 52N30Q**  
**IXFK 52N30Q**  
**IXFT 52N30Q**

**V<sub>DSS</sub> = 300 V**  
**I<sub>D25</sub> = 52 A**  
**R<sub>DS(on)</sub> = 60 mΩ**  
**t<sub>rr</sub> ≤ 250 ns**

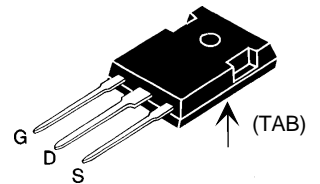
N-Channel Enhancement Mode  
Avalanche Rated, High dv/dt, Low t<sub>rr</sub>  
Low Gate Charge and Capacitances



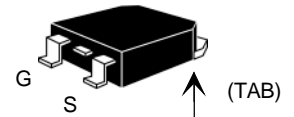
Preliminary data

Symbol	Test Conditions	Maximum Ratings	
V <sub>DSS</sub>	T <sub>J</sub> = 25°C to 150°C	300	V
V <sub>DGR</sub>	T <sub>J</sub> = 25°C to 150°C; R <sub>GS</sub> = 1 MΩ	300	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, Chip capability	52	A
I <sub>DM</sub>	T <sub>C</sub> = 25°C, pulse width limited by T <sub>JM</sub>	208	A
I <sub>AR</sub>	T <sub>C</sub> = 25°C	52	A
E <sub>AR</sub>	T <sub>C</sub> = 25°C	30	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 TO-264	1.13/10 Nm/lb.in. 0.9/6 Nm/lb.in.
Weight		TO-247 TO-264 TO-268	6 10 4 g

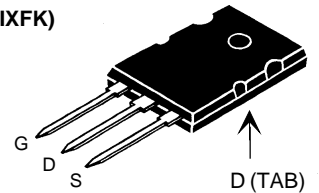
TO-247 AD (IXFH)



TO-268 (D3) (IXFT)



TO-264 AA (IXFK)



G = Gate  
S = Source

TAB = Drain

## Features

- Low gate charge
- International standard packages
- Epoxy meet UL94V-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> = 1 mA	300		V
V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 4 mA	2		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			50 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 %			60 mΩ





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