

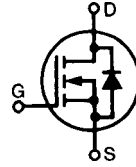
HiPerFET™ Power MOSFETs Q-Class

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

IXFH20N80Q
IXFK20N80Q
IXFT20N80Q

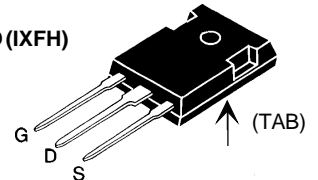
$V_{DSS} = 800 \text{ V}$
 $I_{D25} = 20 \text{ A}$
 $R_{DS(on)} = 0.42 \Omega$

$t_{rr} \leq 250 \text{ ns}$

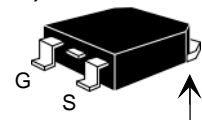


Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C}$ to 150°C	800	V
V_{DGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GS} = 1 \text{ M}\Omega$	800	V
V_{GS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C = 25^\circ\text{C}$	20	A
I_{DM}	$T_C = 25^\circ\text{C}$, pulse width limited by T_{JM}	80	A
I_{AR}	$T_C = 25^\circ\text{C}$	20	A
E_{AR}	$T_C = 25^\circ\text{C}$	45	mJ
E_{AS}	$T_C = 25^\circ\text{C}$	1.5	J
dv/dt	$I_S \leq I_{DM}$, $di/dt \leq 100 \text{ A}/\mu\text{s}$, $V_{DD} \leq V_{DSS}$, $T_J \leq 150^\circ\text{C}$, $R_G = 2 \Omega$	5	V/ns
P_D	$T_C = 25^\circ\text{C}$	360	W
T_J		-55 ... +150	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{stg}		-55 ... +150	$^\circ\text{C}$
T_L	1.6 mm (0.063 in) from case for 10 s	300	$^\circ\text{C}$
M_d	Mounting torque	TO-247 TO-264	1.13/10 0.9/6 Nm/lb.in. Nm/lb.in.
Weight		TO-247 TO-268 TO-264	6 4 10 g g g

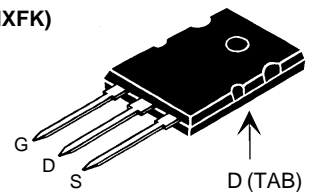
TO-247 AD (IXFH)



TO-268 (D3) (IXFT)



TO-264 AA (IXFK)



G = Gate
S = Source

TAB = Drain

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_{DSS}	$V_{GS} = 0 \text{ V}$, $I_D = 250 \mu\text{A}$	800		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 4 \text{ mA}$	2.5		4.5 V
I_{GSS}	$V_{GS} = \pm 20 \text{ V}_{DC}$, $V_{DS} = 0$			$\pm 200 \text{ nA}$
I_{DSS}	$V_{DS} = V_{DSS}$, $V_{GS} = 0 \text{ V}$			$T_J = 25^\circ\text{C}$: 25 μA $T_J = 125^\circ\text{C}$: 1 mA
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}$, $I_D = 0.5 \cdot I_{D25}$ Pulse test, $t \leq 300 \mu\text{s}$, duty cycle $d \leq 2\%$			0.42 Ω

Features

- IXYS advanced low Q_g process
- International standard packages
- Epoxy meet UL94V-0, flammability classification
- Low $R_{DS(on)}$ low Q_g
- Avalanche energy and current rated
- Fast intrinsic rectifier

Advantages

- Easy to mount
- Space savings
- High power density

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