

Excellent Integrated System Limited

Stocking Distributor

Click to view price, real time Inventory, Delivery & Lifecycle Information:

[IXYS Corporation](#)

[IXFH15N80Q](#)

For any questions, you can email us directly:

sales@integrated-circuit.com



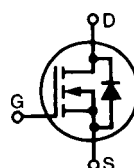
HiPerFET™ Power MOSFETs Q-Class

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

IXFH 15N80Q
IXFT 15N80Q

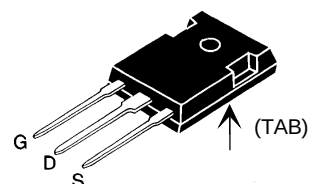
$V_{DSS} = 800 \text{ V}$
 $I_{D25} = 15 \text{ A}$
 $R_{DS(on)} = 0.60 \Omega$

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

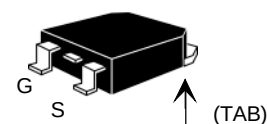


Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C}$ to 150°C	800	V
V_{DGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GS} = 1 \text{ M}\Omega$	800	V
V_{GS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C = 25^\circ\text{C}$	15	A
I_{DM}	$T_C = 25^\circ\text{C}$, pulse width limited by T_{JM}	60	A
I_{AR}	$T_C = 25^\circ\text{C}$	15	A
E_{AR}	$T_C = 25^\circ\text{C}$	30	mJ
E_{AS}	$T_C = 25^\circ\text{C}$	1.0	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	$T_C = 25^\circ\text{C}$	300	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 (0.062 in.) from case for 10 s	300	$^\circ\text{C}$
M_d	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) Case Style



G = Gate
S = Source

D = Drain
TAB = Drain

Symbol	Test Conditions ($T_J = 25^\circ\text{C}$, unless otherwise specified)	Characteristic Values		
		Min.	Typ.	Max.
V_{DSS}	$V_{GS} = 0 \text{ V}$, $I_D = 3 \text{ mA}$	800		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 4 \text{ mA}$	2.0		4.5 V
I_{GSS}	$V_{GS} = \pm 20 \text{ V}_{DC}$, $V_{DS} = 0$			$\pm 100 \text{ nA}$
I_{DSS}	$V_{DS} = V_{DSS}$, $T_J = 25^\circ\text{C}$			25 μA
	$V_{GS} = 0 \text{ V}$, $T_J = 125^\circ\text{C}$			1 mA
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}$, $I_D = 0.5 I_{D25}$ Pulse test, $t \leq 300 \mu\text{s}$, duty cycle $d \leq 2 \%$			0.60 Ω

Features

- IXYS advanced low Q_g process
- International standard packages
- Low $R_{DS(on)}$
- Unclamped Inductive Switching (UIS) rated
- Fast switching
- Molding epoxies meet UL 94 V-0 flammability classification

Advantages

- Easy to mount
- Space savings
- High power density

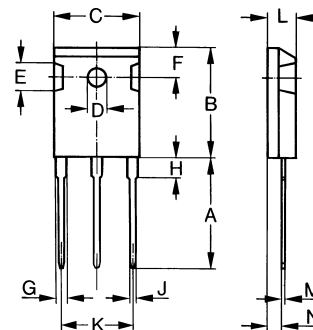


IXFH 15N80Q
IXFT 15N80Q

Symbol	Test Conditions	Characteristic Values (T _j = 25°C, unless otherwise specified)		
		Min.	Typ.	Max.
g_{fs}	V _{DS} = 10 V; I _D = 0.5 I _{D25} , pulse test	8	16	S
C_{iss}	V _{GS} = 0 V, V _{DS} = 25 V, f = 1 MHz		4300	pF
C_{oss}			360	pF
C_{rss}			60	pF
t_{d(on)}	V _{GS} = 10 V, V _{DS} = 0.5 V _{DSS} , I _D = 0.5 I _{D25} R _G = 1.5 Ω (External)		18	ns
t_r			27	ns
t_{d(off)}			53	ns
t_f			16	ns
Q_{g(on)}	V _{GS} = 10 V, V _{DS} = 0.5 V _{DSS} , I _D = 0.5 I _{D25}		90	nC
Q_{gs}			20	nC
Q_{gd}			30	nC
R_{thJC}	(TO-247)		0.25	0.42 K/W
R_{thCK}				K/W

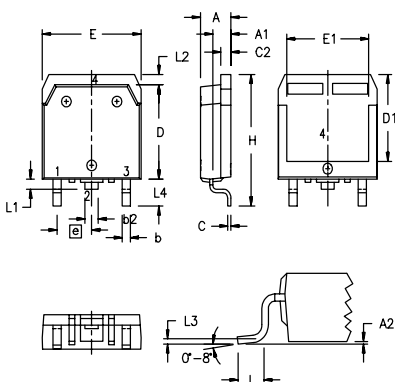
Source-Drain Diode		Characteristic Values (T _j = 25°C, unless otherwise specified)		
Symbol	Test Conditions	min.	typ.	max.
I_S	V _{GS} = 0 V			15 A
I_{SM}	Repetitive;			60 A
V_{SD}	I _F = I _S , V _{GS} = 0 V, Pulse test, t ≤ 300 μs, duty cycle d ≤ 2 %			1.5 V
t_{rr}	I _F = I _S -di/dt = 100 A/μs, V _R = 100 V	0.85	8	250 ns
Q_{RM}				μC
I_{RM}				A

TO-247 AD (IXFH) Outline



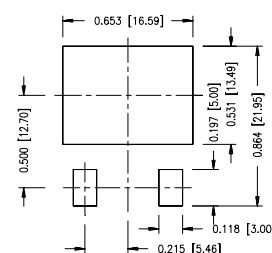
Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.610	0.640
D	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102

TO-268AA (D³ PAK)



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.9	5.1	.193	.201
A ₁	2.7	2.9	.106	.114
A ₂	.02	.25	.001	.010
b	1.15	1.45	.045	.057
b ₂	1.9	2.1	.75	.83
C	.4	.65	.016	.026
D	13.80	14.00	.543	.551
E	15.85	16.05	.624	.632
E ₁	13.3	13.6	.524	.535
e	5.45 BSC		.215 BSC	
H	18.70	19.10	.736	.752
L	2.40	2.70	.094	.106
L1	1.20	1.40	.047	.055
L2	1.00	1.15	.039	.045
L3	0.25 BSC		.010 BSC	
L4	3.80	4.10	.150	.161

Min. Recommended Footprint



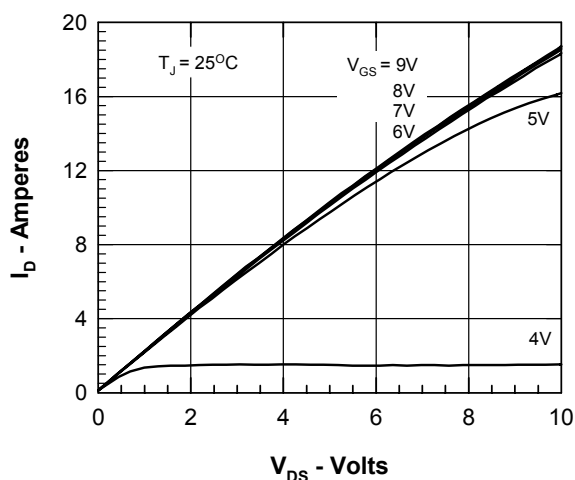


Figure 1. Output Characteristics at 25°C

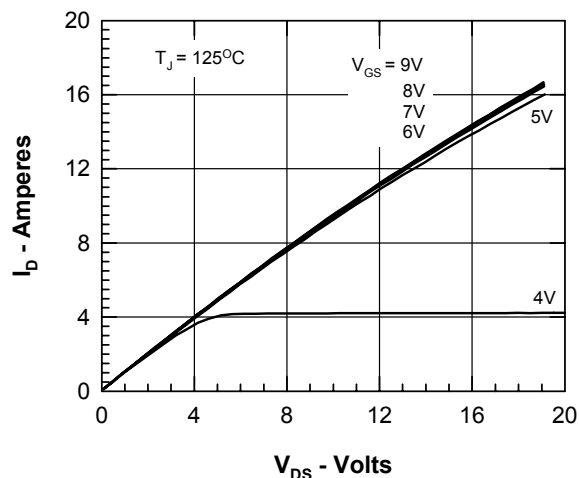


Figure 2. Output Characteristics at 125°C

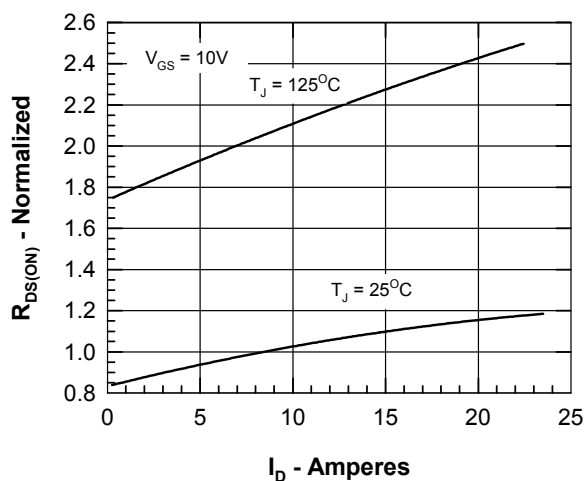


Figure 3. $R_{DS(on)}$ normalized to value at $I_D = 12A$

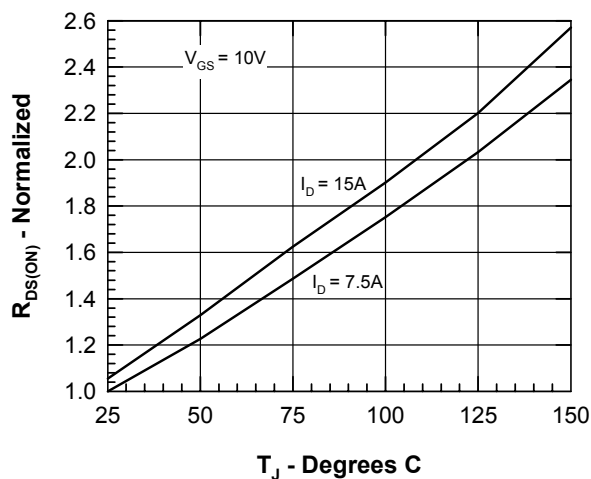


Figure 4. $R_{DS(on)}$ normalized to value at $I_D = 12A$

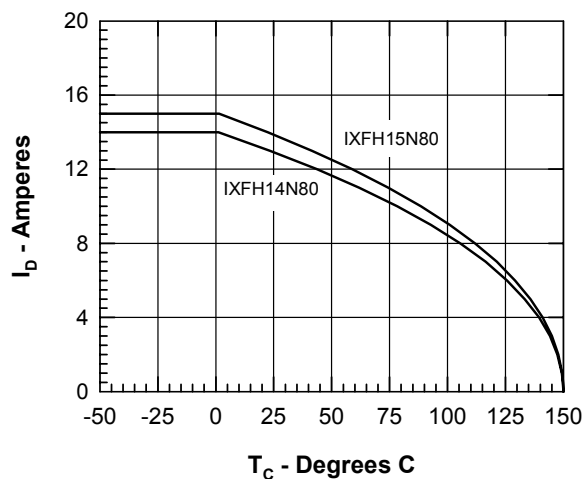


Figure 5. Drain Current vs. Case Temperature

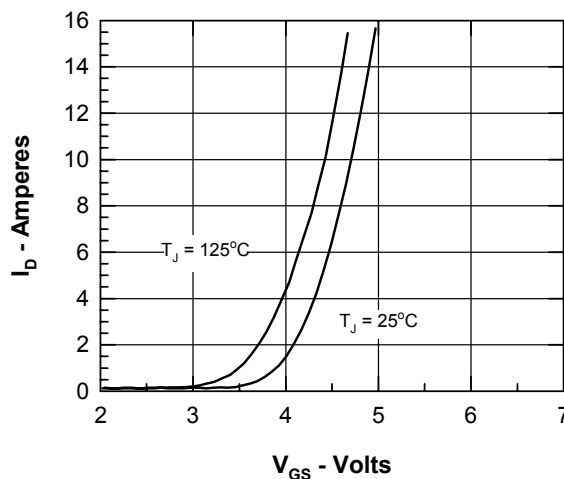


Figure 6. Admittance Curves



IXFH 15N80Q

IXFT 15N80Q

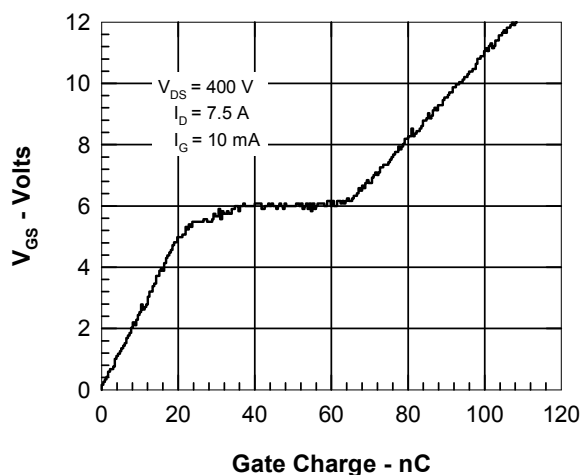


Figure 7. Gate Charge

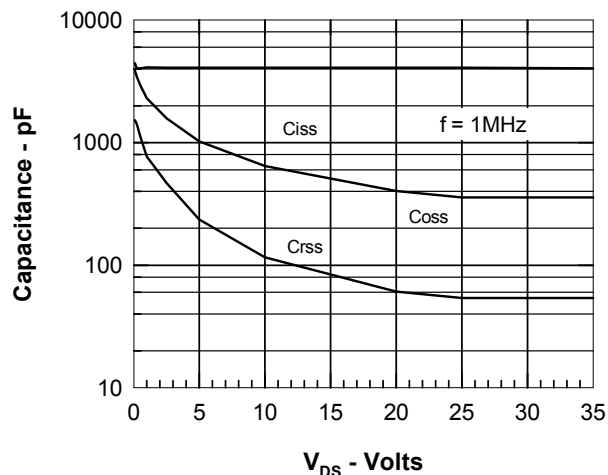


Figure 8. Capacitance Curves

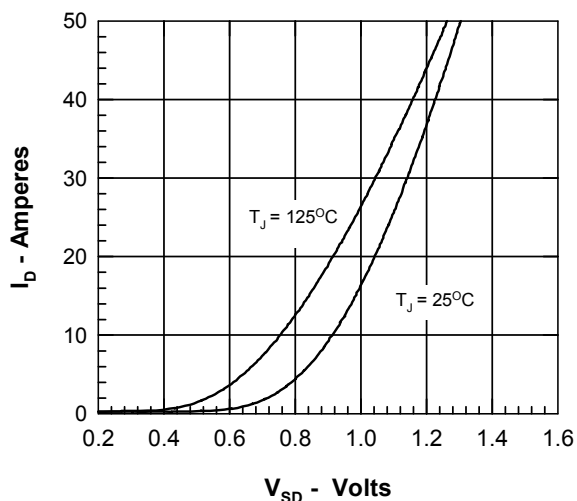


Figure 9. Source Current vs. Source to Drain Voltage

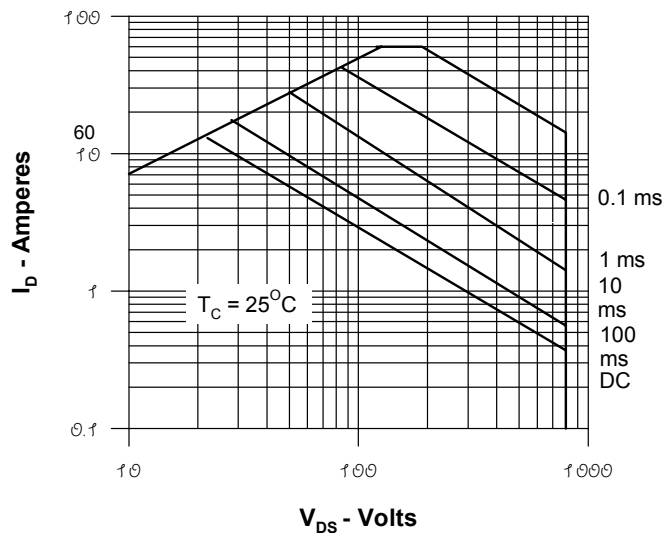


Figure 10. Forward Bias Safe Operating Area

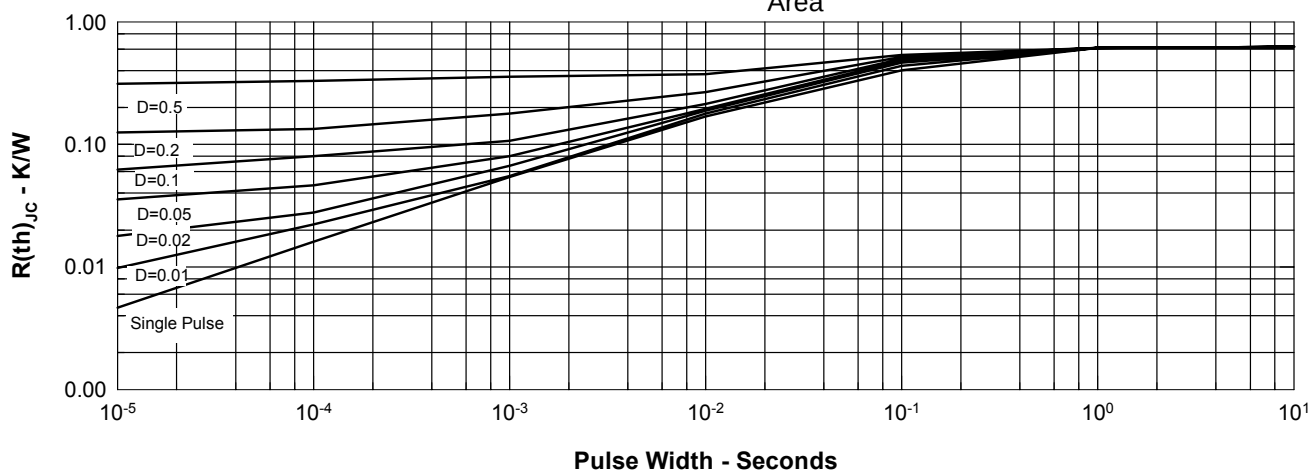


Figure 11. Transient Thermal Resistance