



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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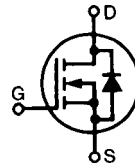
HiPerFET™ Power MOSFETs

N-Channel Enhancement Mode
High dv/dt, Low t_{rr} , HDMOS™ Family

IXFH 76 N06-11
IXFH 76 N06-12
IXFH 76 N07-11
IXFH 76 N07-12

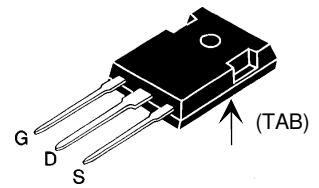
V_{DSS}	I_{D25}	$R_{DS(on)}$
60 V	76 A	11 mΩ
60 V	76 A	12 mΩ
70 V	76 A	11 mΩ
70 V	76 A	12 mΩ

Preliminary data sheet



Symbol	Test Conditions	Maximum Ratings		
V_{DSS}	$T_J = 25^\circ\text{C}$ to 175°C	N06	60	V
V_{DGR}	$T_J = 25^\circ\text{C}$ to 175°C ; $R_{GS} = 10\text{ k}\Omega$	N06	60	V
		N07	70	V
V_{GS}	Continuous		± 20	V
V_{GSM}	Transient		± 30	V
I_{D25}	$T_C = 25^\circ\text{C}$ (Chip capability = 125 A)		76	A
I_{D119}	$T_C = 119^\circ\text{C}$, limited by external leads		76	A
I_{DM}	$T_C = 25^\circ\text{C}$, pulse width limited by T_{JM}		304	A
I_{AR}	$T_C = 25^\circ\text{C}$		100	A
E_{AR}	$T_C = 25^\circ\text{C}$		30	mJ
E_{AS}			2	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 ... +175	$^\circ\text{C}$
T_{JM}			175	$^\circ\text{C}$
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		1.15/10	Nm/lb.in.
Weight			6	g

TO-247 AD



G = Gate, D = Drain,
S = Source, TAB = Drain

Features

- International standard package JEDEC TO-247 AD
- Low $R_{DS(on)}$ HDMOS™ process
- Rugged polysilicon gate cell structure
- Unclamped Inductive Switching (UIS) rated
- Low package inductance - easy to drive and to protect
- Fast intrinsic Rectifier

Applications

- DC-DC converters
- Synchronous rectification
- Battery chargers
- Switched-mode and resonant-mode power supplies
- DC choppers
- Temperature and lighting controls
- Low voltage relays

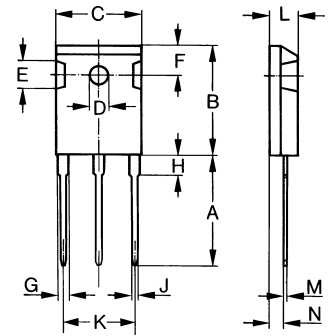
Advantages

- Easy to mount with 1 screw (isolated mounting screw hole)
- Space savings
- High power density

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_{DSS}	$V_{GS} = 0\text{ V}$, $I_D = 250\ \mu\text{A}$	N06	60	V
		N07	70	V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 4\text{ mA}$		2.0	3.4 V
I_{GSS}	$V_{GS} = \pm 20\text{ V}_{DC}$, $V_{DS} = 0$			$\pm 100\text{ nA}$
I_{DSS}	$V_{DS} = 0.8 \cdot V_{DSS}$, $V_{GS} = 0\text{ V}$	$T_J = 25^\circ\text{C}$		100 μA
		$T_J = 125^\circ\text{C}$		500 μA
$R_{DS(on)}$	$V_{GS} = 10\text{ V}$, $I_D = 40\text{ A}$	76N06/N07-11		11 mΩ
		76N06/N07-12		12 mΩ
	Pulse test, $t \leq 300\ \mu\text{s}$, duty cycle $d \leq 2\%$			

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
g_{fs}	$V_{DS} = 10\text{ V}; I_D = 40\text{ A}$, pulse test	30	40	S
C_{iss}	$V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$		4400	pF
C_{oss}			2000	pF
C_{rss}			1200	pF
$t_{d(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 50\text{ V}, I_D = 30\text{ A}$ $R_G = 1\ \Omega$ (External)		40	ns
t_r			70	ns
$t_{d(off)}$			130	ns
t_f			55	ns
$Q_{g(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 40\text{ A}$		240	nC
Q_{gs}			30	nC
Q_{gd}			120	nC
R_{thJC}			0.42	K/W
R_{thCK}		0.25		K/W

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
I_S	$V_{GS} = 0\text{ V}$			76 A
I_{SM}	Repetitive; pulse width limited by T_{JM}			304 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}	$I_F = 25\text{ A}, -di/dt = 100\text{ A}/\mu\text{s}, T_J = 25^\circ\text{C}$ $V_R = 25\text{ V}, T_J = 125^\circ\text{C}$		150	ns 250 ns

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

Fig.1 Output Characteristics

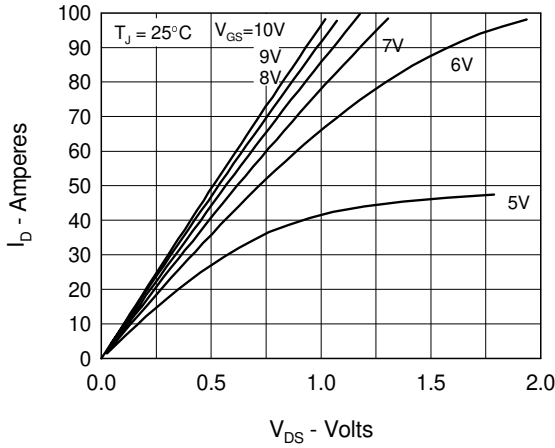


Fig. 2 Input Admittance

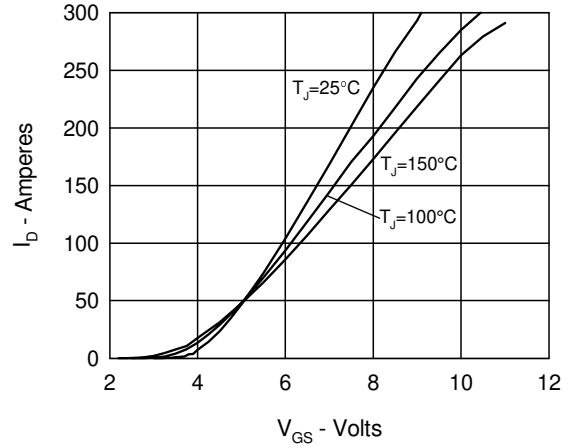


Fig. 3 $R_{DS(on)}$ vs. Drain Current

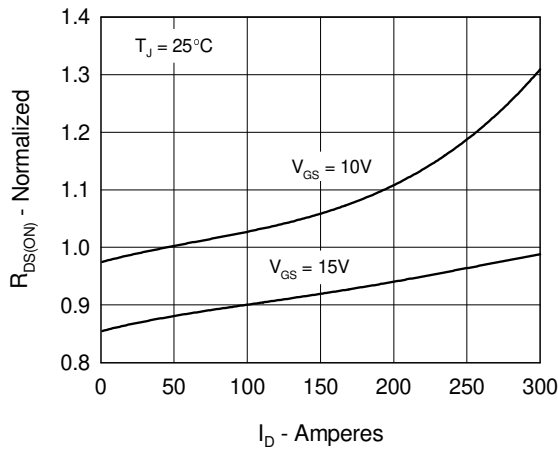


Fig. 4 $R_{DS(on)}$ Temperature Dependence

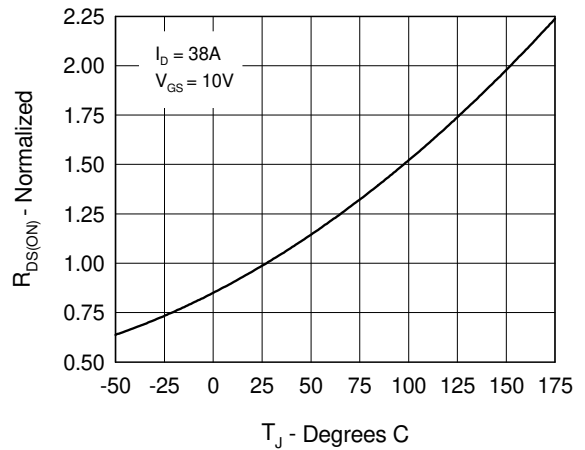


Fig. 5 I_D vs. Case Temperature

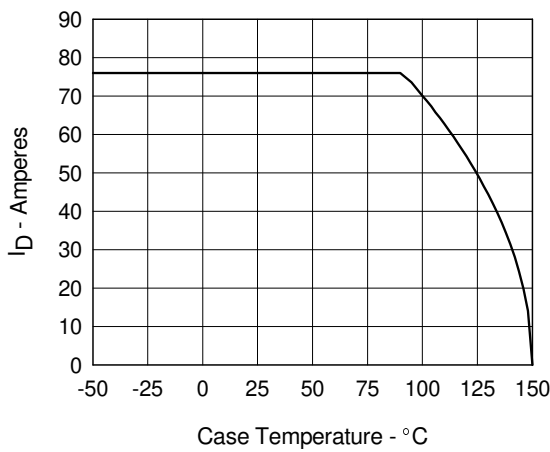


Fig. 6 Transconductance

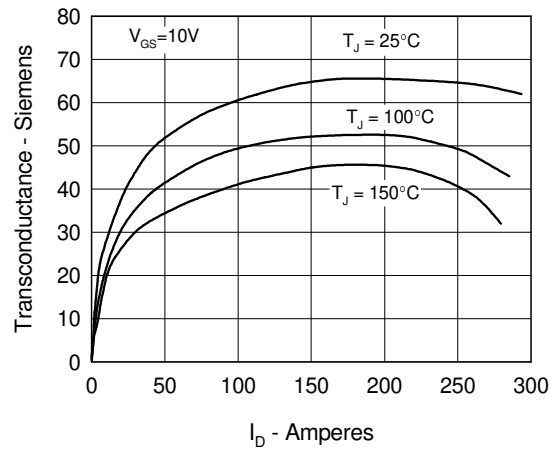


Fig. 7 Gate Charge

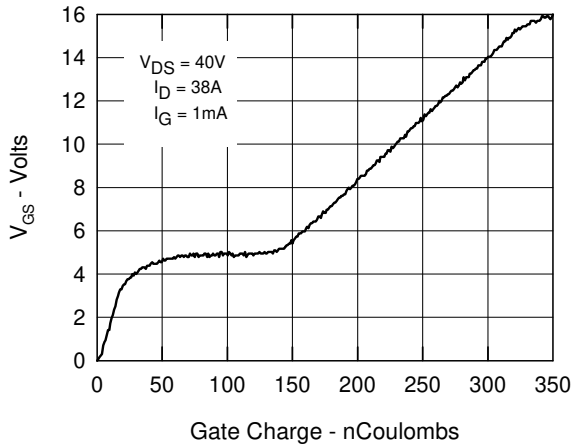


Fig. 8 Forward Bias Safe Operating Area

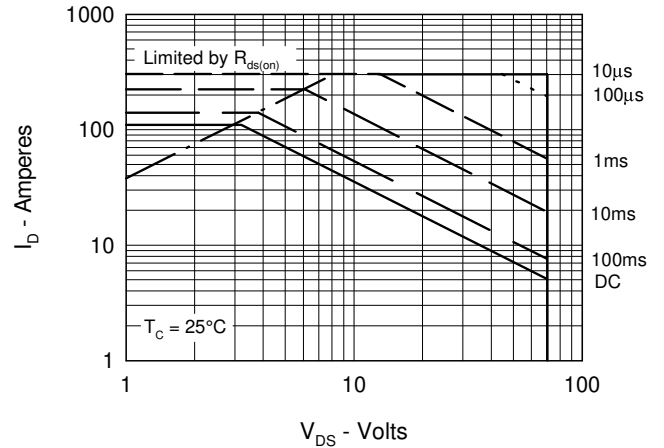


Fig. 9 Capacitance Curves

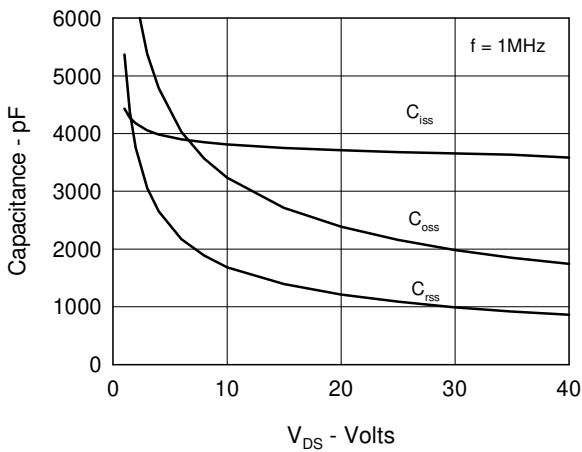


Fig. 10 Source Current vs. Source to Drain Voltage

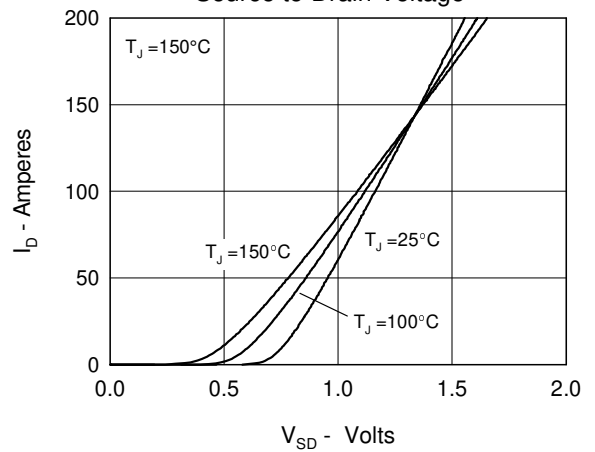


Fig. 11 Transient Thermal Impedance

