



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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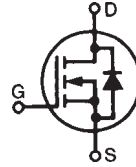
HiPerFET™ MOSFET ISOPLUS220™

Electrically Isolated Back Surface

IXFC 80N08
IXFC 80N085

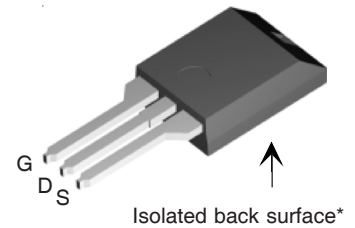
V_{DSS}	I_{D25}	$R_{DS(on)}$
80 V	80 A	11 mΩ
85 V	80 A	11 mΩ

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



Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C}$ to 150°C	80N08	80 V
V_{DGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GS} = 1\text{ M}\Omega$	80N085	85 V
V_{GS}	Continuous		± 20 V
V_{GSM}	Transient		± 30 V
I_{D25}	$T_C = 25^\circ\text{C}$		80 A
$I_{L(RMS)}$	Lead current limit		80 A
I_{DM}	$T_C = 25^\circ\text{C}$, pulse width limited by T_{JM}		75 A
I_{AR}	$T_C = 25^\circ\text{C}$		320 A
E_{AR}	$T_C = 25^\circ\text{C}$		30 mJ
E_{AS}			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	$T_C = 25^\circ\text{C}$		230 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	$^\circ\text{C}$
F_C	Mounting force	11..65/2.4..11	Nm/lb
V_{ISOL}	50/60 Hz, RMS $t = 1$ minute leads-to-tab	2500	V~
Weight		2	g

ISOPLUS220™



G = Gate, D = Drain,
S = Source

* Patent pending

Features

- Silicon chip on Direct-Copper-Bond substrate
- High power dissipation
- Isolated mounting surface
- 2500V electrical isolation
- Low drain to tab capacitance (<35pF)
- Low $R_{DS(on)}$
- Rugged polysilicon gate cell structure
- Unclamped Inductive Switching (UIS) rated
- Fast intrinsic Rectifier

Applications

- DC-DC converters
- Battery chargers
- Switched-mode and resonant-mode power supplies
- DC choppers
- AC motor control

Advantages

- Easy assembly: no screws or isolation foils required
- Space savings
- High power density
- Low collector capacitance to ground (low EMI)

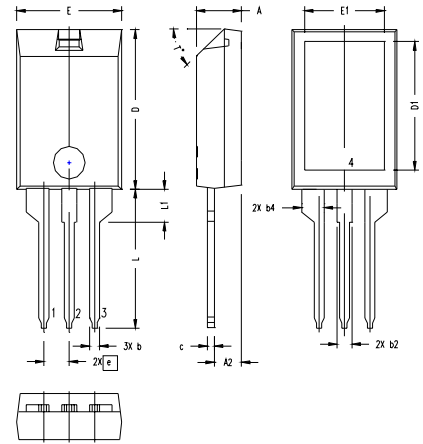
Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_{DSS}	$V_{GS} = 0\text{ V}$, $I_D = 250\ \mu\text{A}$	80N08 80N085	80 85	V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 4\text{ mA}$		2.0	4.0 V
I_{GSS}	$V_{GS} = \pm 20\text{ V}_{DC}$, $V_{DS} = 0$			$\pm 100\text{ nA}$
I_{DSS}	$V_{DS} = V_{DSS}$, $V_{GS} = 0\text{ V}$	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$		50 μA 1 mA
$R_{DS(on)}$	$V_{GS} = 10\text{ V}$, $I_D = I_T$ Notes 1, 2			11 mΩ

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
g_{fs}	$V_{DS} = 10\text{ V}; I_D = I_T$ Notes 1, 2	35	55	S
C_{iss}	$V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$		4800	pF
C_{oss}		1675	pF	
C_{rss}		590	pF	
$t_{d(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 0.5 \cdot I_{D25}, R_G = 2.5\ \Omega$ (External)		50	ns
t_r		75	ns	
$t_{d(off)}$		95	ns	
t_f		31	ns	
$Q_{g(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = I_T$ Notes 2		180	nC
Q_{gs}		42	nC	
Q_{gd}		75	nC	
R_{thJC}			0.54	K/W
R_{thCK}		0.25		K/W

Source-Drain Diode

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
I_S	$V_{GS} = 0\text{ V}$			80 A
I_{SM}	Repetitive; pulse width limited by T_{JM}			320 A
V_{SD}	$I_F = I_S, V_{GS} = 0\text{ V}$, Note 1			1.5 V
t_{rr}	$I_F = 25\text{ A}$ $-di/dt = 100\text{ A}/\mu\text{s}$, $V_R = 50\text{ V}$			200 ns
Q_{RM}		0.5		μC
I_{RM}		6		A

Note: 1. Pulse test, $t \leq 300\ \mu\text{s}$, duty cycle $d \leq 2\%$
 2. $I_T = 40\text{ A}$

ISOPLUS220LV Outline


SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.157	.197	4.00	5.00
A2	.098	.118	2.50	3.00
b	.035	.051	0.90	1.30
b2	.049	.065	1.25	1.65
b4	.093	.100	2.35	2.55
c	.028	.039	0.70	1.00
D	.591	.630	15.00	16.00
D1	.472	.512	12.00	13.00
E	.394	.433	10.00	11.00
E1	.295	.335	7.50	8.50
e	.100	BASIC	2.55	BASIC
L	.512	.571	13.00	14.50
L1	.118	.138	3.00	3.50
T*			42.5*	47.5*

Notes:

- Lead 1 = Gate
- Lead 2 = Drain
- Lead 3 = Source
- Back surface 4 is electrically isolated from leads 1, 2 & 3