

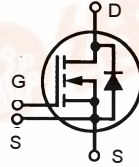


HiPerFET™ Power MOSFETs Single Die MOSFET

IXFN 340N07

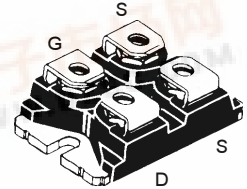
$V_{DSS} = 70 \text{ V}$
 $I_{D25} = 340 \text{ A}$
 $R_{DS(on)} = 4 \text{ m}\Omega$
 $t_{rr} \leq 250 \text{ ns}$

N-Channel Enhancement Mode
 Avalanche Rated, High dv/dt, Low t_{rr}



Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C}$ to 150°C	70	V
V_{DGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GS} = 1 \text{ M}\Omega$	70	V
V_{GS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C = 25^\circ\text{C}$, Chip capability	340	A
$I_{L(RMS)}$	Terminal current limit	100	A
I_{DM}	$T_C = 25^\circ\text{C}$, pulse width limited by T_{JM}	1360	A
I_{AR}	$T_C = 25^\circ\text{C}$	200	A
E_{AR}	$T_C = 25^\circ\text{C}$	64	mJ
E_{AS}	$T_C = 25^\circ\text{C}$	4	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	$T_C = 25^\circ\text{C}$	700	W
T_J		-55 ... +150	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{stg}		-55 ... +150	$^\circ\text{C}$
V_{ISOL}	50/60 Hz, RMS $t = 1 \text{ min}$ $I_{ISOL} \leq 1 \text{ mA}$ $t = 1 \text{ s}$	2500 3000	V~ V~
M_d	Mounting torque Terminal connection torque	1.5/13 1.5/13	Nm/lb.in. Nm/lb.in.
Weight		30	g

miniBLOC, SOT-227 B (IXFN)
 E153432



G = Gate D = Drain
 S = Source

Either Source terminal at miniBLOC can be used as Main or Kelvin Source

Features

- International standard packages
- miniBLOC, with Aluminium nitride isolation
- Low $R_{DS(on)}$ HDMOS™ process
- Rugged polysilicon gate cell structure
- Unclamped Inductive Switching (UIS) rated
- Low package inductance
- Fast intrinsic Rectifier

Applications

- DC-DC converters
- Battery chargers
- Switched-mode and resonant-mode power supplies
- DC choppers
- Temperature and lighting controls

Advantages

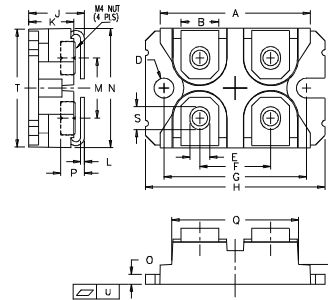
- Easy to mount
- Space savings
- High power density

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_{DSS}	$V_{GS} = 0 \text{ V}$, $I_D = 3 \text{ mA}$	70		V
$V_{GH(th)}$	$V_{DS} = V_{GS}$, $I_D = 8 \text{ mA}$	2.0		V
I_{GSS}	$V_{GS} = \pm 20 \text{ V}_{DC}$, $V_{DS} = 0$			$\pm 200 \text{ nA}$
I_{DSS}	$V_{DS} = V_{DSS}$, $V_{GS} = 0 \text{ V}$			100 μA 2 mA
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}$, $I_D = 100 \text{ A}$ Pulse test, $t \leq 300 \mu\text{s}$, duty cycle $d \leq 2 \%$			4 m Ω



Symbol	Test Conditions	Characteristic Values		
		(T _J = 25°C, unless otherwise specified)		
		min.	typ.	max.
g_{fs}	V _{DS} = 15 V; I _D = 60A, pulse test	80	105	S
C_{iss}	V _{GS} = 0 V, V _{DS} = 25 V, f = 1 MHz		16800	pF
C_{oss}			8000	pF
C_{rss}			4800	pF
t_{d(on)}	V _{GS} = 10 V, V _{DS} = 0.5 • V _{DSS} , I _D = 100A R _G = 1 Ω (External)		140	ns
t_r			95	ns
t_{d(off)}			200	ns
t_f			33	ns
Q_{g(on)}	V _{GS} = 10 V, V _{DS} = 50 V, I _D = 100A		600	nC
Q_{gs}			110	nC
Q_{gd}			300	nC
R_{thJC}			0.18	KW
R_{thCK}		0.05		KW

miniBLOC, SOT-227 B



M4 screws (4x) supplied

Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	31.50	31.88	1.240	1.255
B	7.80	8.20	0.307	0.323
C	4.09	4.29	0.161	0.169
D	4.09	4.29	0.161	0.169
E	4.09	4.29	0.161	0.169
F	14.91	15.11	0.587	0.595
G	30.12	30.30	1.186	1.193
H	38.00	38.23	1.496	1.505
J	11.68	12.22	0.460	0.481
K	8.92	9.60	0.351	0.378
L	0.76	0.84	0.030	0.033
M	12.60	12.85	0.496	0.506
N	25.15	25.42	0.990	1.001
O	1.98	2.13	0.078	0.084
P	4.95	5.97	0.195	0.235
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	0.155	0.174
S	4.72	4.85	0.186	0.191
T	24.59	25.07	0.968	0.987
U	-0.05	0.1	-0.002	0.004

Symbol	Test Conditions	Characteristic Values		
		(T _J = 25°C, unless otherwise specified)		
		min.	typ.	max.
I_s	V _{GS} = 0 V			340 A
I_{SM}	Repetitive; pulse width limited by T _{JM}			1360 A
V_{SD}	I _F = 100A, V _{GS} = 0 V, Pulse test, t ≤ 300 μs, duty cycle d ≤ 2 %			1.2 V
t_{rr}	I _F = 50A, -di/dt = 100 A/μs, V _R = 50V T _J = 25°C		1.4	ns
Q_{RM}			8	μC
I_{RM}				