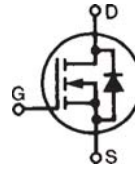


# HiPerFET™ Power MOSFET ISOPLUS264™

## IXFL34N100

$V_{DSS} = 1000V$   
 $I_{D25} = 30A$   
 $R_{DS(on)} \leq 280m\Omega$



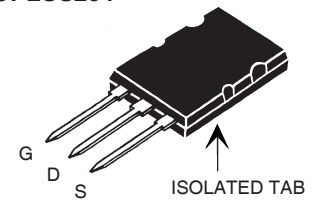
(Electrically Isolated Tab)

Single-Die MOSFET

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

Symbol	Test Conditions	Maximum Ratings	
$V_{DSS}$	$T_J = 25^\circ C$ to $150^\circ C$	1000	V
$V_{DGR}$	$T_J = 25^\circ C$ to $150^\circ C$ , $R_{GS} = 1M\Omega$	1000	V
$V_{GSS}$	Continuous	$\pm 20$	V
$V_{GSM}$	Transient	$\pm 30$	V
$I_{D25}$	$T_C = 25^\circ C$	30	A
$I_{DM}$	$T_C = 25^\circ C$ , Pulse Width Limited by $T_{JM}$	136	A
$I_A$	$T_C = 25^\circ C$	34	A
$E_{AS}$	$T_C = 25^\circ C$	4	J
$dv/dt$	$I_S \leq I_{DM}$ , $di/dt \leq 100 A/\mu s$ , $V_{DD} \leq V_{DSS}$ $T_J \leq 150^\circ C$ , $R_G = 2 \Omega$	5	V/ns
$P_D$	$T_C = 25^\circ C$	550	W
$T_J$		-55 ... +150	$^\circ C$
$T_{JM}$		150	$^\circ C$
$T_{stg}$		-55 ... +150	$^\circ C$
$T_L$	1.6 mm (0.063 in.) from Case for 10s	300	$^\circ C$
$T_{SOLD}$	Plastic body for 10s	260	$^\circ C$
$F_C$	Mounting Force	40..120 / 9..27	N/lb.
$V_{ISOL}$	50/60 Hz, RMS $t = 1$ min $I_{ISOL} \leq 1$ mA $t = 1$ s	2500 3000	V~ V~
<b>Weight</b>		8	g

### ISOPLUS264



G = Gate  
S = Source  
D = Drain

### Features

- Silicon Chip on Direct-Copper Bond (DCB) Substrate
  - High Power Dissipation
  - Isolated Mounting Surface
  - 2500V Electrical Isolation
- Low Drain to Tab Capacitance (<30pF)
- Low RDS (on) HDMOS™ Process
- Rugged Polysilicon Gate Cell Structure
- Avalanche Rated
- Fast intrinsic Rectifier

### Advantages

- High Power Density
- Easy to Mount
- Space Savings

### Applications:

- Switched-Mode and Resonant-Mode Power Supplies
- DC-DC Converters
- DC Choppers
- Laser Drivers
- AC and DC Motor Drives
- Robotics and Servo Controls

Symbol	Test Conditions ( $T_J = 25^\circ C$ , Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
$BV_{DSS}$	$V_{GS} = 0V$ , $I_D = 3mA$	1000		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$ , $I_D = 8mA$	3.0		5.5 V
$I_{GSS}$	$V_{GS} = \pm 20V$ , $V_{DS} = 0V$			$\pm 100$ nA
$I_{DSS}$	$V_{DS} = V_{DSS}$ , $V_{GS} = 0V$ $T_J = 125^\circ C$			100 $\mu A$ 2 mA
$R_{DS(on)}$	$V_{GS} = 10V$ , $I_D = 17A$ , Note 1			280 m $\Omega$

Symbol	Test Conditions ( $T_J = 25^\circ\text{C}$ , Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
$g_{fs}$	$V_{DS} = 15\text{V}, I_D = 17\text{A}$ , Note 1	18	40	S
$C_{iss}$	$V_{GS} = 0\text{V}, V_{DS} = 25\text{V}, f = 1\text{MHz}$		9200	pF
$C_{oss}$			1200	pF
$C_{rss}$			300	pF
$t_{d(on)}$	<b>Resistive Switching Times</b> $V_{GS} = 10\text{V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 17\text{A}$ $R_G = 1\Omega$ (External)		41	ns
$t_r$			65	ns
$t_{d(off)}$			110	ns
$t_f$			30	ns
$Q_{g(on)}$	$V_{GS} = 10\text{V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 17\text{A}$		380	nC
$Q_{gs}$			65	nC
$Q_{gd}$			185	nC
$R_{thJC}$				0.225 $^\circ\text{C/W}$
$R_{thCS}$		0.15		$^\circ\text{C/W}$

### Source-Drain Diode

Symbol	Test Conditions ( $T_J = 25^\circ\text{C}$ , Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
$I_S$	$V_{GS} = 0\text{V}$			34 A
$I_{SM}$	Repetitive, Pulse Width Limited by $T_{JM}$			136 A
$V_{SD}$	$I_F = I_S, V_{GS} = 0\text{V}$ , Note 1			1.3 V
$t_{rr}$	$I_F = I_S, V_{GS} = 0\text{V}$ $-di/dt = 100\text{A}/\mu\text{s}$ $V_R = 100\text{V}$ $T_J = 125^\circ\text{C}$		180	ns
			330	ns
$Q_{RM}$			2	$\mu\text{C}$
$I_{RM}$		8	A	

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

Please see IXFN36N100 data sheet for characteristic curves.

**ISOPLUS264™ (IXFL) Outline**

Note: Bottom heatsink meets

SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.190	.205	4.83	5.21
A1	.102	.118	2.59	3.00
A2	.046	.055	1.17	1.40
b	.045	.055	1.14	1.40
b1	.087	.102	2.21	2.59
b2	.111	.126	2.82	3.20
c	.020	.029	0.51	0.74
D	1.020	1.040	25.91	26.42
E	.770	.788	19.56	20.09
e	.215 BSC		5.46 BSC	
L	.780	.820	19.81	20.83
L1	.080	.102	2.03	2.59
Q	.210	.235	5.33	5.97
Q1	.490	.513	12.45	13.03
R	.150	.180	3.81	4.57
R1	.100	.130	2.54	3.30
S	.668	.690	16.97	17.53
T	.801	.821	20.34	20.85
U	.065	.080	1.65	2.03

Ref: IXYS CO 0128

IXYS Reserves the Right to Change Limits, Test Conditions, and Dimensions.

IXYS MOSFETs and IGBTs are covered by one or more of the following U.S. patents:	4,835,592	4,931,844	5,049,961	5,237,481	6,162,665	6,404,065 B1	6,683,344	6,727,585	7,005,734 B2	7,157,338B2
	4,850,072	5,017,508	5,063,307	5,381,025	6,259,123 B1	6,534,343	6,710,405 B2	6,759,692	7,063,975 B2	
	4,881,106	5,034,796	5,187,117	5,486,715	6,306,728 B1	6,583,505	6,710,463	6,771,478 B2	7,071,537	