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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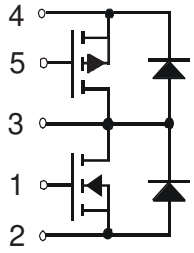
IXYS

Preliminary Technical Information

Polar™ P & N-Channel Power MOSFET Common Drain Topology

FMP26-02P

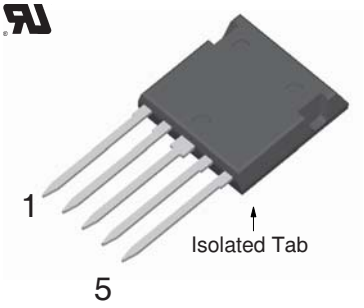
(Electrically Isolated Tab)



	P CH.	N CH.
V_{DSS}	- 200V	200V
I_{D25}	- 17A	26A
$R_{DS(on)}$	170mΩ	60mΩ
$t_{rr(typ)}$	240ns	150ns

Symbol	Test Conditions	Maximum Ratings	
T_J		-55 ... +150	°C
T_{JM}		150	°C
T_{stg}		-55 ... +150	°C
V_{ISOLD}	50/60H_Z, RMS, t = 1min, Leads-to-Tab	2500	~V
T_L	1.6mm (0.062 in.) from Case for 10s	300	°C
T_{SOLD}	Plastic Body for 10s	260	°C
F_C	Mounting Force	20..120 / 4.5..27	N/lb.

ISOPLUS i4-Pak™



Symbol	Test Conditions	Characteristic Values Min.	Typ.	Max.	
C_P	Coupling Capacitance Between Shorted Pins and Mounting Tab in the Case		40		pF
d_S, d_A	Pin - Pin	1.7			mm
d_S, d_A	Pin - Backside Metal	5.5			mm
Weight			9		g

P - CHANNEL

Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	T_J = 25°C to 150°C	- 200	V
V_{DGR}	T_J = 25°C to 150°C, R_{GS} = 1MΩ	- 200	V
V_{GSS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	T_C = 25°C	-17	A
I_{DM}	T_C = 25°C, Pulse Width Limited by T_{JM}	- 70	A
I_A	T_C = 25°C	- 26	A
E_{AS}	T_C = 25°C	1.5	J
P_D	T_C = 25°C	125	W

Features

- Silicon Chip on Direct-Copper Bond (DCB) Substrate
  - UL Recognized Package
  - Isolated Mounting Surface
  - 2500V~ Electrical Isolation
- Avalanche Rated
- Low Q_G
- Low Drain-to-Tab Capacitance
- Low Package Inductance

Advantages

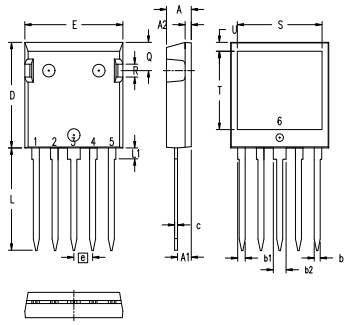
- Low Gate Drive Requirement
- High Power Density
- Low Drain to Ground Capacitance
- Fast Switching

Applications

- DC and AC Motor Drives
- Class AB Audio Amplifiers
- Multi-Phase DC to DC Converters
- Industrial Battery Chargers
- Switching Power Supplies

Symbol	Test Conditions (T_J = 25°C Unless Otherwise Specified)	Characteristic Values Min.	Typ.	Max.	
BV_{DSS}	V_{GS} = 0V, I_D = - 250μA	- 200			V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, I_D = - 250μA	- 2.5		- 4.5	V
I_{GSS}	V_{GS} = ±20 V, V_{DS} = 0V			± 100	nA
I_{DSS}	$V_{DS} = V_{DSS}$, V_{GS} = 0V			-10	μA
	T_J = 125°C			- 150	μA
$R_{DS(on)}$	V_{GS} = -10V, I_D = -13A, Note 1			170	mΩ
g_{fs}	V_{DS} = -10V, I_D = -13A, Note 1	10	17		S
C_{iss}	V_{GS} = 0V, V_{DS} = - 25 V, f = 1 MHz		2740		pF
C_{oss}			540		pF
C_{rss}			100		pF
$t_{d(on)}$	**Resistive Switching Times**		18		ns
t_r	V_{GS} = -10V, V_{DS} = 0.5 • V_{DSS}, I_D = -13A		33		ns
$t_{d(off)}$	R_G = 3.3Ω (External)		46		ns
t_f			21		ns
$Q_{g(on)}$	V_{GS}= -10V, V_{DS} = 0.5 • V_{DSS}, I_D = -13A		56		nC
Q_{gs}			18		nC
Q_{gd}			20		nC
R_{thJC}				1.0	°C/W
R_{thCS}			0.15		°C/W

ISOPLUS i4-Pak™ Outline



NOTE: Bottom heatsink meets 3000 Volts AC 1 sec isolation to the other pins.

SYM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS MAX
A	.190	.205	4.83	5.21
A1	.102	.118	2.59	3.00
A2	.046	.085	1.17	2.16
b	.045	.055	1.14	1.40
b1	.058	.068	1.47	1.73
b2	.100	.110	2.54	2.79
C	.020	.029	0.51	0.74
D	.819	.840	20.80	21.34
E	.770	.799	19.56	20.29
e	.150 BSC		3.81 BSC	
L	.780	.840	19.81	21.34
L1	.083	.102	2.11	2.59
Q	.210	.244	5.33	6.20
R	.100	.180	2.54	4.57
S	.660	.690	16.76	17.53
T	.590	.620	14.99	15.75
U	.065	.080	1.65	2.03

Ref: IXYS CO 0077 R0

Source-Drain Diode

Symbol	Test Conditions (T_J = 25°C Unless Otherwise Specified)	Characteristic Values Min.	Typ.	Max.	
I_S	V_{GS} = 0V			-17	A
I_{SM}	Repetitive, Pulse Width Limited by T_{JM}			-104	A
V_{SD}	I_F = -13A, V_{GS} = 0V, Note 1			- 3.2	V
t_{rr}	I_F = -13A, di/dt = 100A/μs		240		ns
Q_{RM}	V_R = -100V, V_{GS} = 0V		2.2		μC
I_{RM}			-18		A

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

N - CHANNEL

Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	T_J = 25°C to 150°C	200	V
V_{DGR}	T_J = 25°C to 150°C, R_{GS} = 1MΩ	200	V
V_{GSS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	T_C = 25°C	26	A
I_{DM}	T_C = 25°C, Pulse Width Limited by T_{JM}	120	A
I_A	T_C = 25°C	50	A
E_{AS}	T_C = 25°C	1	J
P_D	T_C = 25°C	125	W

Symbol	Test Conditions (T_J = 25°C Unless Otherwise Specified)	Characteristic Values Min.	Typ.	Max.	
BV_{DSS}	V_{GS} = 0V, I_D = 250μA	200			V
$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	2.5		5.0	V
I_{GSS}	V_{GS} = ±20 V, V_{DS} = 0V			± 100	nA
I_{DSS}	V_{DS} = V_{DSS}, V_{GS} = 0V			25	μA
	T_J = 150°C			250	μA
$R_{DS(on)}$	V_{GS} = 10V, I_D = 25A, (Note 1)			60	mΩ
g_{fs}	V_{DS} = 10V, I_D = 25A, (Note 1)	12	23		S
C_{iss}	V_{GS} = 0V, V_{DS} = 25V, f = 1 MHz		2720		pF
C_{oss}			490		pF
C_{rss}			105		pF
$t_{d(on)}$	**Resistive Switching Times**		26		ns
t_r	V_{GS} = 10V, V_{DS} = 0.5 • V_{DSS}, I_D = 25A		35		ns
$t_{d(off)}$	R_G = 10Ω (External)		70		ns
t_f			30		ns
$Q_{g(on)}$	V_{GS}= 10V, V_{DS} = 0.5 • V_{DSS}, I_D = 25A		70		nC
Q_{gs}			17		nC
Q_{gd}			37		nC
R_{thJC}				1.0	°C/W
R_{thCS}			0.15		°C/W

Source-Drain Diode

Symbol	Test Conditions (T_J = 25°C Unless Otherwise Specified)	Characteristic Values Min.	Typ.	Max.	
I_S	V_{GS} = 0V			26	A
I_{SM}	Repetitive, Pulse Width Limited by T_{JM}			120	A
V_{SD}	I_F = 50A, V_{GS} = 0V, Note 1			1.5	V
t_{rr}	I_F = 25A, -di/dt = 100A/μs		150		ns
Q_{RM}	V_R = 100V, V_{GS} = 0V		2.0		μC

Note 1: Pulse test, t ≤ 300μs, duty cycle, d ≤ 2 %.

PRELIMINARY TECHNICAL INFORMATION

The product presented herein is under development. The Technical Specifications offered are derived from data gathered during objective characterizations of preliminary engineering lots; but also may yet contain some information supplied during a pre-production design evaluation. IXYS reserves the right to change limits, test conditions, and dimensions without notice.