



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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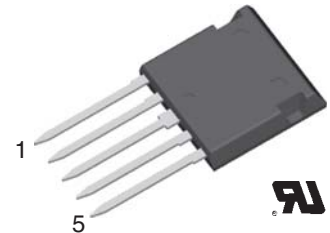
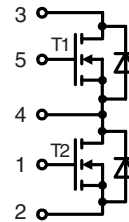


# HiPerFET™ Power MOSFET

Phaseleg Topology  
in ISOPLUS i4-PAC™

$$\begin{aligned} I_{D25} &= 75 \text{ A} \\ V_{DSS} &= 100 \text{ V} \\ R_{DSon typ.} &= 18 \text{ m}\Omega \end{aligned}$$

Preliminary data



MOSFET T1/T2					
Symbol	Conditions	Maximum Ratings			
V <sub>DSS</sub>	T <sub>VJ</sub> = 25°C to 150°C	100	V		
V <sub>GS</sub>		±20	V		
I <sub>D25</sub>	T <sub>C</sub> = 25°C	75	A		
I <sub>D90</sub>	T <sub>C</sub> = 90°C	50	A		
I <sub>F25</sub>	(body diode) T <sub>C</sub> = 25°C	100	A		
I <sub>F90</sub>	(body diode) T <sub>C</sub> = 90°C	60	A		
dv/dt	V <sub>DS</sub> < V <sub>DSS</sub> ; I <sub>F</sub> ≤ 300A;  di <sub>F</sub> /dt  ≤ 100A/μs; R <sub>G</sub> = 2 Ω T <sub>VJ</sub> = 150°C	5	V/ns		
E <sub>AR</sub>	T <sub>C</sub> = 25°C	30	mJ		
Symbol	Conditions	Characteristic Values (T <sub>VJ</sub> = 25°C, unless otherwise specified)			
		min.	typ.	max.	
R <sub>DSon</sub>	V <sub>GS</sub> = 10 V; I <sub>D</sub> = I <sub>D90</sub>		18	25 mΩ	
V <sub>GSth</sub>	V <sub>DS</sub> = 20 V; I <sub>D</sub> = 4 mA	2		4 V	
I <sub>DSS</sub>	V <sub>DS</sub> = V <sub>DSS</sub> ; V <sub>GS</sub> = 0 V; T <sub>VJ</sub> = 25°C T <sub>VJ</sub> = 125°C		0.25	0.3 mA mA	
I <sub>GSS</sub>	V <sub>GS</sub> = ±20 V; V <sub>DS</sub> = 0 V			200 nA	
Q <sub>g</sub> Q <sub>gs</sub> Q <sub>gd</sub>	V <sub>GS</sub> = 10 V; V <sub>DS</sub> = 0.5 • V <sub>DSS</sub> ; I <sub>D</sub> = I <sub>D90</sub>		180 35 85	nC nC nC	
t <sub>d(on)</sub> t <sub>r</sub> t <sub>d(off)</sub> t <sub>f</sub>		V <sub>GS</sub> = 10 V; V <sub>DS</sub> = 0.5 • V <sub>DSS</sub> I <sub>D</sub> = I <sub>D90</sub> ; R <sub>G</sub> = 2 Ω		20 60 80 60	ns ns ns ns
V <sub>F</sub>			(body diode) I <sub>F</sub> = 75 A; V <sub>GS</sub> = 0 V		1.2
t <sub>rr</sub>	(body diode) I <sub>F</sub> = 37.5A; -di/dt = 100A/μs; V <sub>DS</sub> = 25V			300	ns
R <sub>thJC</sub> R <sub>thJH</sub>	with heat transfer paste			0.93	0.5 K/W K/W

## Features

- HiPerFET™ technology
  - low  $R_{DSon}$
  - low gate charge for high frequency operation
  - unclamped inductive switching (UIS) capability
  - dv/dt ruggedness
  - fast intrinsic reverse diode
- ISOPLUS i4-PAC™ package
  - isolated back surface
  - low coupling capacity between pins and heatsink
  - enlarged creepage towards heatsink
  - application friendly pinout
  - low inductive current path
  - high reliability
  - industry standard outline
  - UL registered E 72873

## Applications

- drives and power supplies
- battery or fuel cell powered
- automotive, industrial vehicle etc.
- secondary side of mains power supplies

IXYS reserves the right to change limits, test conditions and dimensions.

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**Component**

Symbol	Conditions	Maximum Ratings	
$T_{VJ}$		-55...+150	°C
$T_{stg}$		-55...+125	°C
$V_{ISOL}$	$I_{ISOL} \leq 1 \text{ mA}; 50/60 \text{ Hz}$	2500	V~
$F_c$	mounting force with clip	20...120	N

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
$C_p$	coupling capacity 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

**Dimensions in mm (1 mm = 0.0394")**
