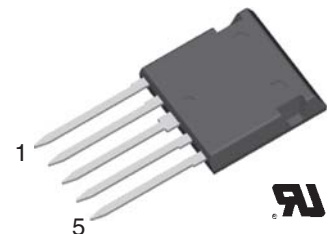
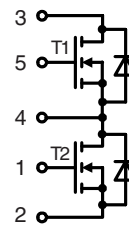


# HiPerFET™ Power MOSFET

Phaseleg Topology  
in ISOPLUS i4-PAC™

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

Preliminary data



MOSFET T1/T2				
Symbol	Conditions	Maximum Ratings		
$V_{DSS}$	$T_{VJ} = 25^{\circ}\text{C}$ to $150^{\circ}\text{C}$	100	V	
$V_{GS}$		$\pm 20$	V	
$I_{D25}$	$T_C = 25^{\circ}\text{C}$	75	A	
$I_{D90}$	$T_C = 90^{\circ}\text{C}$	50	A	
$I_{F25}$	(body diode) $T_C = 25^{\circ}\text{C}$	100	A	
$I_{F90}$	(body diode) $T_C = 90^{\circ}\text{C}$	60	A	
$dv/dt$	$V_{DS} < V_{DSS}$ ; $I_F \leq 300\text{A}$ ; $ di_F/dt  \leq 100\text{A}/\mu\text{s}$ ; $R_G = 2 \Omega$ $T_{VJ} = 150^{\circ}\text{C}$	5	V/ns	
$E_{AR}$	$T_C = 25^{\circ}\text{C}$	30	mJ	
Symbol	Conditions	Characteristic Values ( $T_{VJ} = 25^{\circ}\text{C}$ , unless otherwise specified)		
		min.	typ.	max.
$R_{DSon}$	$V_{GS} = 10 \text{ V}$ ; $I_D = I_{D90}$		18	25 m $\Omega$
$V_{GSth}$	$V_{DS} = 20 \text{ V}$ ; $I_D = 4 \text{ mA}$	2		4 V
$I_{DSS}$	$V_{DS} = V_{DSS}$ ; $V_{GS} = 0 \text{ V}$ ; $T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		0.25	0.3 mA mA
$I_{GSS}$	$V_{GS} = \pm 20 \text{ V}$ ; $V_{DS} = 0 \text{ V}$			200 nA
$Q_g$	} $V_{GS} = 10 \text{ V}$ ; $V_{DS} = 0.5 \cdot V_{DSS}$ ; $I_D = I_{D90}$		180	nC
$Q_{gs}$			35	nC
$Q_{gd}$			85	nC
$t_{d(on)}$	} $V_{GS} = 10 \text{ V}$ ; $V_{DS} = 0.5 \cdot V_{DSS}$ $I_D = I_{D90}$ ; $R_G = 2 \Omega$		20	ns
$t_r$			60	ns
$t_{d(off)}$			80	ns
$t_f$			60	ns
$V_F$	(body diode) $I_F = 75 \text{ A}$ ; $V_{GS} = 0 \text{ V}$		1.2	1.5 V
$t_{rr}$	(body diode) $I_F = 37.5\text{A}$ ; $-di/dt = 100\text{A}/\mu\text{s}$ ; $V_{DS} = 25\text{V}$		300	ns
$R_{thJC}$	with heat transfer paste			0.5 K/W
$R_{thJH}$			0.93	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

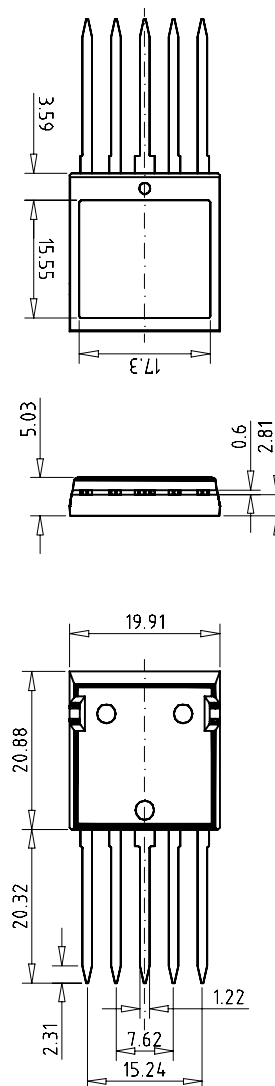
- drives and power supplies
- battery or fuel cell powered
- automotive, industrial vehicle etc.
- secondary side of mains power supplies

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

**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
<b>Weight</b>			9	g

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


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