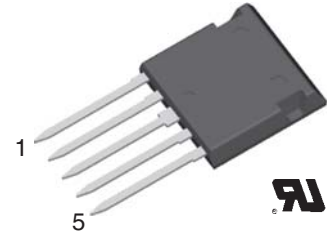
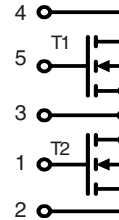


HiPerFET™ Power MOSFET

Common Source 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}		± 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 Ω	
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 Q_{gs} Q_{gd}	} $V_{GS} = 10 \text{ V}; V_{DS} = 0.5 \cdot V_{DSS}; I_D = I_{D90}$		180	nC	
				35	nC
				85	nC
$t_{d(on)}$ t_r $t_{d(off)}$ t_f	} $V_{GS} = 10 \text{ V}; V_{DS} = 0.5 \cdot V_{DSS}$ $I_D = I_{D90}; R_G = 2 \Omega$		20	ns	
				60	ns
				80	ns
				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} R_{thJH}	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.

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				

Dimensions in mm (1 mm = 0.0394")
