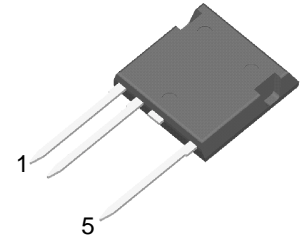
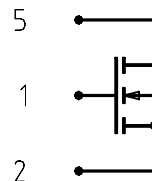


# HiPerFET™ Power Mosfet

in High Voltage ISOPLUS I4-PAC™

## IXFF 24N100

$I_{D25} = 22 \text{ A}$   
 $V_{DSS} = 1000 \text{ V}$   
 $R_{DSon} = 390 \text{ m}\Omega$



### MOSFETs

Symbol	Conditions	Maximum Ratings	
$V_{DSS}$	$T_{VJ} = 25^\circ\text{C to } 150^\circ\text{C}$	1000	V
$V_{GS}$		$\pm 20$	V
$I_{D25}$	$T_C = 25^\circ\text{C}$	22	A
$I_{D90}$	$T_C = 90^\circ\text{C}$	15	A
$I_{F25}$	(diode) $T_C = 25^\circ\text{C}$	120	A
$I_{F90}$	(diode) $T_C = 90^\circ\text{C}$	75	A
$dv/dt$	$V_{DS} < V_{DSS}; I_F \leq 100\text{A};  di_F/dt  \leq 100\text{A}/\mu\text{s}; R_G = 2 \Omega$ $T_{VJ} = 150^\circ\text{C}$	5	V/ns
$E_{AR}$	$T_C = 25^\circ\text{C}$	64	mJ

Symbol	Conditions	Characteristic Values ( $T_{VJ} = 25^\circ\text{C}$ , unless otherwise specified)		
		min.	typ.	max.
$R_{DSon}$	$V_{GS} = 10 \text{ V}; I_D = I_{D90}$			390 m $\Omega$
$V_{GSth}$	$V_{DS} = 20 \text{ V}; I_D = 8 \text{ mA};$	2.5		5 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	0.1 mA mA
$I_{GSS}$	$V_{GS} = \pm 20 \text{ V}; V_{DS} = 0 \text{ V}$			200 nA
$Q_g$			250	nC
$Q_{gs}$			55	nC
$Q_{gd}$			135	nC
$t_{d(on)}$			35	ns
$t_r$			35	ns
$t_{d(off)}$			75	ns
$t_f$			21	ns
$V_F$	(diode) $I_F = 12 \text{ A}; V_{GS} = 0 \text{ V}$			1.5 V
$t_{rr}$	(diode) $I_F = 24 \text{ A}; -di/dt = 100 \text{ A}/\mu\text{s}; V_{DS} = 100 \text{ V}$		250	ns
$R_{thJC}$				0.32 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™ high voltage package
  - isolated back surface
  - enlarged creepage towards heatsink
  - enlarged creepage between high voltage pins
  - application friendly pinout
  - high reliability
  - industry standard outline

### Applications

- switched mode power supplies
- DC-DC converters
- resonant converters

**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.
$d_s, d_A$	D pin - S pin	7.0		mm
$d_s, d_A$	pin - backside metal	5.5		mm
$R_{thCH}$	with heatsink compound		0.15	K/W
<b>Weight</b>			9	g

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