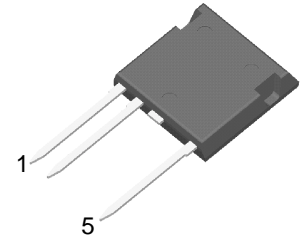
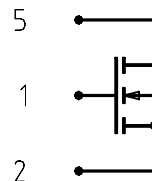


HiPerFET™ Power Mosfet

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}		± 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

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

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 Ω
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
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

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
Weight			9	g

Dimensions in mm (1 mm = 0.0394")
