

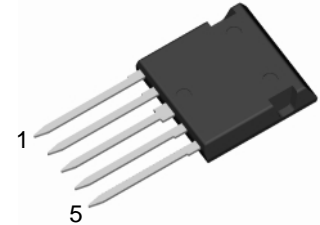
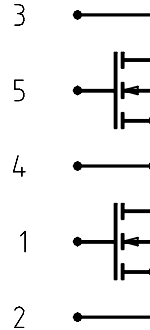
HiPerFET™

Power Mosfet

-Phaseleg Topology-
in ISOPLUS i4-PAC™

FMM 75-01F

I_{D25} = 75 A
 V_{DSS} = 100 V
 R_{DSon} = 25 mΩ



MOSFETs

Symbol	Conditions	Maximum Ratings	
V_{DSS}	$T_{VJ} = 25^{\circ}\text{C}$ to 150°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}	(diode) $T_C = 25^{\circ}\text{C}$	100	A
I_{F90}	(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

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
 - enlarged creepage towards heatsink
 - application friendly pinout
 - low inductive current path
 - high reliability
 - industry standard outline

Symbol Conditions Characteristic Values

($T_{VJ} = 25^{\circ}\text{C}$, unless otherwise specified)

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
R_{DSon}	$V_{GS} = 10\text{ V}$; $I_D = I_{D90}$			25 mΩ
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
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	(diode) $I_F = 75\text{ A}$; $V_{GS} = 0\text{ V}$		1.2	1.5 V
t_{rr}	(diode) $I_F = 37.5\text{ A}$; $-di/dt = 100\text{ A}/\mu\text{s}$; $V_{DS} = 25\text{ V}$	300		ns
R_{thJC}				0.5 K/W

Applications

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

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	pin - pin	1.7		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")
