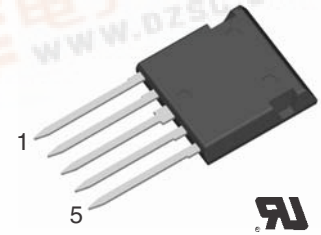
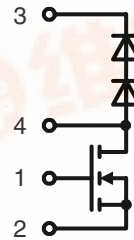


HiPerFET™
Power MOSFETs
 -Boost Chopper Topology-
 in ISOPLUS i4-PAC™

I_{D25} = 38 A
V_{DSS} = 600 V
R_{DSon} = 60 mΩ



MOSFET			
Symbol	Conditions	Maximum Ratings	
V _{DSS}	T _{VJ} = 25°C to 150°C	600	V
V _{GS}		±20	V
I _{D25}	T _C = 25°C	38	A
I _{D90}	T _C = 90°C	25	A

Features

- fast CoolMOS power MOSFET - 3rd generation
 - high blocking voltage
 - low on resistance
 - low thermal resistance due to reduced chip thickness
- HiPerDyn™ FRED
 - consisting of series connected diodes
 - enhanced dynamic behaviour for high frequency operation
- 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

Symbol	Conditions	Characteristic Values (T _{VJ} = 25°C, unless otherwise specified)		
		min.	typ.	max.
R _{DSon}	V _{GS} = 10 V; I _D = 20 A		60	70 mΩ
V _{GSth}	V _{DS} = 20 V; I _D = 2.7 mA	2.1		3.9 V
I _{DSS}	V _{DS} = V _{DSS} ; V _{GS} = 0 V; T _{VJ} = 25°C T _{VJ} = 125°C		250	25 μA μA
I _{GSS}	V _{GS} = ±20 V; V _{DS} = 0 V			200 nA
Q _g Q _{gs} Q _{gd}	V _{GS} = 10 V; V _{DS} = 350 V; I _D = 47 A		250	nC
			25	nC
			120	nC
t _{d(on)} t _r t _{d(off)} t _f	V _{GS} = 10 V; V _{DS} = 380 V; I _D = 47 A; R _G = 1.8 Ω		20	ns
			30	ns
			110	ns
			10	ns
V _F	(reverse conduction) I _F = 20 A; V _{GS} = 0 V		0.9	V
R _{thJC} R _{thJS}			tbd	0.45 K/W K/W

Applications

- chopper for power factor correction
- supply of high frequency transformer
 - switched mode power supplies
 - welding converters

Free Wheeling Diode (data for series connection)

Symbol	Conditions	Maximum Ratings	
V_{RRM}	$T_{VJ} = 25^{\circ}\text{C}$ to 150°C	600	V
I_{F25}	$T_C = 25^{\circ}\text{C}$	80	A
I_{F90}	$T_C = 90^{\circ}\text{C}$	45	A

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
V_F	$I_F = 20\text{ A}$; $T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$	2.6	2.9	V
		2.0		V
I_R	$V_R = V_{RRM}$; $T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$	0.25	0.25	mA mA
I_{RM} t_{rr}	$I_F = 30\text{ A}$; $di_F/dt = -500\text{ A}/\mu\text{s}$; $T_{VJ} = 125^{\circ}\text{C}$ $V_R = 300\text{ V}$	9		A
		40		ns
R_{thJC} R_{thJS}	(per diode)	tbd	0.65	K/W K/W

Component

Symbol	Conditions	Maximum Ratings	
T_{VJ}		-55...+150	$^{\circ}\text{C}$
T_{stg}		-55...+125	$^{\circ}\text{C}$
V_{ISOL}	$I_{ISOL} \leq 1\text{ mA}$; 50/60 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		9		g

Dimensions in mm (1 mm = 0.0394")
