

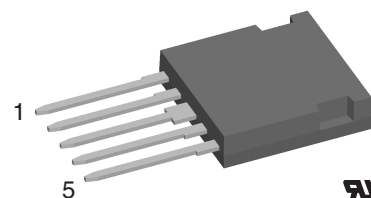
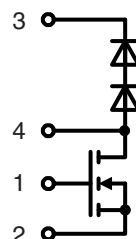
HiPerFET™ CoolMOS™ 1) Power MOSFETs

-Boost Chopper Topology-
in ISOPLUS i4-PAC™

$$I_{D25} = 38 \text{ A}$$

$$V_{DSS} = 600 \text{ V}$$

$$R_{DSon} = 60 \text{ m}\Omega$$



MOSFET			
Symbol	Conditions	Maximum Ratings	
V_{DSS}	$T_{VJ} = 25^{\circ}\text{C to } 150^{\circ}\text{C}$	600	V
V_{GS}		± 20	V
I_{D25}	$T_C = 25^{\circ}\text{C}$	38	A
I_{D90}	$T_C = 90^{\circ}\text{C}$	25	A

Features

- fast CoolMOS™ 1) 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

Applications

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

1) CoolMOS™ is a trademark of
Infineon Technologies AG.

Symbol	Conditions	Characteristic Values ($T_{VJ} = 25^{\circ}\text{C}$, unless otherwise specified)		
		min.	typ.	max.
R_{DSon}	$V_{GS} = 10 \text{ V}; I_D = 20 \text{ A}$		60	70 mΩ
V_{GSth}	$V_{DS} = 20 \text{ V}; I_D = 2.7 \text{ mA}$	2.1		3.9 V
I_{DSS}	$V_{DS} = V_{DSS}; V_{GS} = 0 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		250	25 μA μA
I_{GSS}	$V_{GS} = \pm 20 \text{ V}; V_{DS} = 0 \text{ V}$			200 nA
Q_g Q_{gs} Q_{gd}	$V_{GS} = 10 \text{ V}; V_{DS} = 350 \text{ V}; I_D = 47 \text{ A}$		250 25 120	nC nC nC
$t_{d(on)}$ t_r $t_{d(off)}$ t_f	$V_{GS} = 10 \text{ V}; V_{DS} = 380 \text{ V};$ $I_D = 47 \text{ A}; R_G = 1.8 \Omega$		20 30 110 10	ns ns ns ns
V_F	(reverse conduction) $I_F = 20 \text{ A}; V_{GS} = 0 \text{ V}$		0.9	V
R_{thJC} R_{thJS}			tbd	0.45 K/W K/W

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

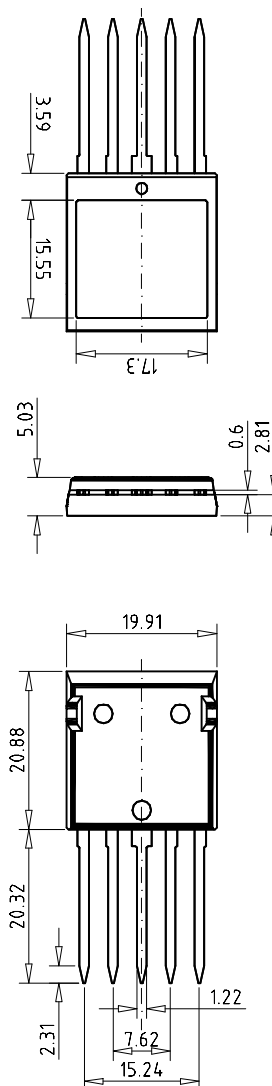
Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
V_F	$I_F = 20\text{ A}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$	2.6	2.9	V
I_R	$V_R = V_{RRM}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$	0.25	0.25	mA
I_{RM} t_{rr}	$I_F = 30\text{ A}; di_F/dt = -500\text{ A}/\mu\text{s}; T_{VJ} = 125^{\circ}\text{C}$ $V_R = 300\text{ V}$	9	40	A 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}	$I_{ISOL} \leq 1\text{ mA}; 50/60\text{ Hz}$	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		9		g

Dimensions in mm (1 mm = 0.0394")





Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.