IXKR 40N60C

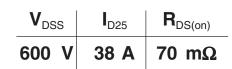


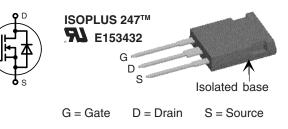
CoolMOS^{™ 1)} Power MOSFET in ISOPLUS247[™] Package

N-Channel Enhancement Mode Low R_{DSon} , High V_{DSS} MOSFET Package with Electrically Isolated Base

Preliminary data

MOSFET





Features

- ISOPLUS247[™] package with DCB Base
- Electrical isolation towards the heatsink - Low coupling capacitance to the heatsink for
- reduced EMI
- High power dissipation
- High temperature cycling capability of chip on DCB
- JEDEC TO-247AD compatible
- Easy clip assembly
- fast CoolMOS^{™ 1)} power MOSFET 3rd generation
 - High blocking capability
 - Low on resistance
- Avalanche rated for unclamped inductive switching (UIS)
- Low thermal resistance
- due to reduced chip thickness
- Enhanced total power density

Applications

- Switched mode power supplies (SMPS)
- Uninterruptible power supplies (UPS)
- Power factor correction (PFC)
- Welding
- Inductive heating

Symbol	Conditions	Maximum F	Maximum Ratings	
V _{DSS}	$T_{vJ} = 25^{\circ}C$ to $150^{\circ}C$	600	V	
V _{GS}		±20	V	
I _{D25} I _{D90}	$T_{c} = 25^{\circ}C$ $T_{c} = 90^{\circ}C$	38 25	A A	
dv/dt	$V_{DS} < V_{DSS}; I_F \le 50A; di_F/dt \le 100A/\mu s$ $T_{VJ} = 150^{\circ}C$	6	V/ns	
E _{AS} E _{AR}	$I_{D} = 10 \text{ A}; \text{ L} = 36 \text{ mH}; \text{ T}_{C} = 25^{\circ}\text{C}$ $I_{D} = 20 \text{ A}; \text{ L} = 5 \mu\text{H}; \text{ T}_{C} = 25^{\circ}\text{C}$	1.8 1	J mJ	

Symbol	Conditions $(T = 25^{\circ}C)$	Characteristic Values $(T_{yy} = 25^{\circ}C, \text{ unless otherwise specified})$			
	(1,1) = 20, 0	min.		max.	
R _{DSon}	$V_{_{\rm GS}} = 10 \text{ V}; I_{_{\rm D}} = I_{_{\rm D90}}$			70 mΩ	
V _{GSth}	$V_{_{DS}} = 20 V; I_{_{D}} = 3 mA;$	2.1		3.9 V	
I _{dss}	$V_{DS} = V_{DSS}; V_{GS} = 0 V; T_{VJ} = 25^{\circ}C T_{VJ} = 125^{\circ}C$		60	25 μΑ μΑ	
I _{GSS}	$V_{GS} = \pm 20 \text{ V}; V_{DS} = 0 \text{ V}$			100 nA	
Q _g Q _{gs} Q _{gd}	$\begin{cases} V_{GS} = 10 \text{ V}; V_{DS} = 350 \text{ V}; I_{D} = 50 \text{ A} \end{cases}$		250 25 120	nC nC nC	
t d(on) t r t d(off) t f	$\begin{cases} V_{GS} = 10 \text{ V}; \text{V}_{DS} = 380 \text{ V}; \\ \text{I}_{D} = 50 \text{A}; \text{R}_{G} = 1.8 \Omega \end{cases}$		20 30 110 10	ns ns ns ns	
V _F	(reverse conduction) $I_{\rm F}$ = 20 A; $V_{\rm GS}$ = 0 V		0.9	1.1 V	
R _{thJC}				0.45 K/W	

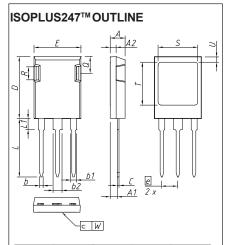
IXYS reserves the right to change limits, test conditions and dimensions.

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



Component				
Symbol	Conditions	Maximum Ratings		
V _{ISOL}	I _{ISOL} ≤ 1 mA; 50/60 Hz	2500	٧~	
T _{vj} T _{stg}		-40+150 -40+125	°C ℃	
TL	1.6 mm from case for 10 s	300	°C	
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		30	pF
R _{thCH}	with heatsink compound		0.25	K/W
Weight			6	g



DIM. A A1	MIN 4,83	MAX	MIN	MAX
A1	4.83			
	.,	5,21	0,190	0,205
10	2,29	2,54	0,090	0,100
A2	1,91	2,16	0,075	0,085
b	1, 14	1,40	0,045	0,055
b1	1,91	2, 15	0,075	0,085
b2	2,92	3,20	0,115	0,126
C	0,61	0,83	0,024	0,033
D	20,80	21,34	0,819	0,840
Ε	15, 75	16,13	0,620	0,635
е	5,45 BSC		0,215 BSC	
L	19,81	20,60	0,780	0,811
L1	3,81	4,38	0,150	0,172
Q	5,59	6,20	0,220	0,244
R	4,32	4,85	0,170	0,191
S	13,21	13, 72	0,520	0,540
T	15, 75	16,26	0,620	0,640
U	1,65	2,03	0,065	0,080
W	-	0,10	-	0,004

of device bottom side This drawing will meet all dimensions requirement of JEDEC outline TO-247 AD except screw hole and except Lmax.



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.