



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

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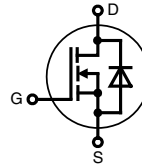
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CoolMOS™ 1) Power MOSFET in ISOPLUS247™ Package

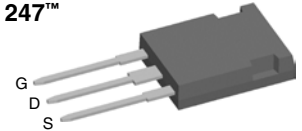
N-Channel Enhancement Mode
Low $R_{DS(on)}$, High V_{DSS} MOSFET
Package with Electrically Isolated Base



$$I_{D25} = 25 \text{ A}$$

$$V_{DSS} = 800 \text{ V}$$

$$R_{DS(on)} = 125 \text{ m}\Omega$$

ISOPLUS 247™


G = Gate, D = Drain, S = Source

MOSFET			
Symbol	Conditions	Maximum Ratings	
V_{DSS}	$T_{VJ} = 25^\circ\text{C}$ to 150°C	800	V
V_{GS}		± 20	V
I_{D25}	$T_C = 25^\circ\text{C}$	25	A
I_{D90}	$T_C = 90^\circ\text{C}$	18	A
dv/dt	$V_{DS} < V_{DSS}$; $I_F \leq 17 \text{ A}$ $di_F/dt \leq 100 \text{ A}/\mu\text{s}$ $T_{VJ} = 150^\circ\text{C}$	6	V/ns
E_{AS}	$I_D = 4 \text{ A}$; $L = 80 \text{ mH}$; $T_C = 25^\circ\text{C}$	0.67	mJ
E_{AR}	$I_D = 17 \text{ A}$; $L = 3.3 \text{ mH}$; $T_C = 25^\circ\text{C}$	0.5	mJ

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

Symbol	Conditions	Characteristic Values			
		$(T_{VJ} = 25^\circ\text{C}, \text{ unless otherwise specified})$			
		min.	typ.	max.	
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}$; $I_D = I_{D90}$		125	150	mΩ
$V_{GS(th)}$	$V_{DS} = 20 \text{ V}$; $I_D = 2 \text{ mA}$	2		4	V
I_{DSS}	$V_{DS} = V_{DSS}$; $V_{GS} = 0 \text{ V}$; $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$		100	50	μA μA
I_{GSS}	$V_{GS} = \pm 20 \text{ V}$; $V_{DS} = 0 \text{ V}$			200	nA
Q_g	$V_{GS} = 10 \text{ V}$; $V_{DS} = 640 \text{ V}$; $I_D = 34 \text{ A}$		180	355	nC
Q_{gs}			24		nC
Q_{gd}			92		nC
$t_{d(on)}$	$V_{GS} = 10 \text{ V}$; $V_{DS} = 640 \text{ V}$ $I_D = 34 \text{ A}$; $R_G = 2.2 \Omega$		25		ns
t_r			15		ns
$t_{d(off)}$			72		ns
t_f			6		ns
V_F	(reverse conduction) $I_F = 12.5 \text{ A}$; $V_{GS} = 0 \text{ V}$		1	1.3	V
R_{thJC}				0.5	K/W

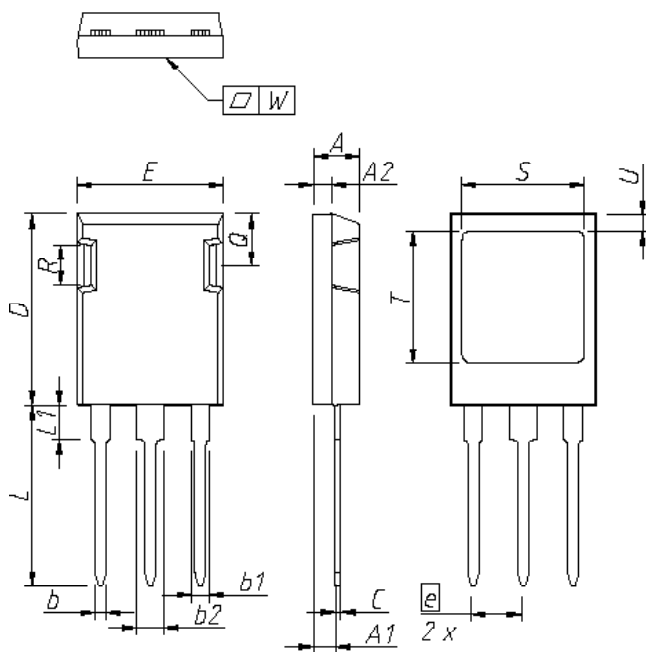
Applications

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

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

Component			
Symbol	Conditions	Maximum Ratings	
V_{ISOL}	$I_{ISOL} \leq 1 \text{ mA}; 50/60 \text{ Hz}$	2500	V~
T_{VJ}		-40...+150	°C
T_{stg}		-40...+125	°C
T_L	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 pin and mounting tab in the case		30	pF
R_{thCH}	with heatsink compound		0.25	K/W
Weight			6	g



DIM.	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	4,83	5,21	0,190	0,205
A1	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
E	15,75	16,13	0,620	0,635
e	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

Die konvexe Form des Substrates ist typ. < 0.04 mm über der Kunststoffoberfläche der Bauteilunterseite
 The convex bow of substrate is typ. < 0.04 mm over plastic surface level of device bottom side

Die Gehäuseabmessungen entsprechen dem Typ TO-247 AD gemäß JEDEC außer Schraubloch und L_{max} .
 This drawing will meet all dimensions requirement of JEDEC outline TO-247 AD except screw hole and except L_{max} .