



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!



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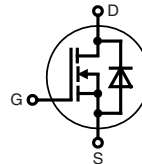
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CoolMOS™ 1) Power MOSFET ISOPLUS™ Package

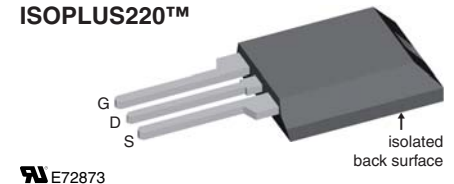
N-Channel Enhancement Mode
Low $R_{DS(on)}$, high V_{DSS} MOSFET
Electrically Isolated Back Surface



$$I_{D25} = 13 \text{ A}$$

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

$$R_{DS(on) \text{ max}} = 290 \text{ m}\Omega$$

ISOPLUS220™


MOSFET			
Symbol	Conditions	Maximum Ratings	
V_{DSS}	$T_{VJ} = 25^\circ\text{C}$	800	V
V_{GS}		± 20	V
I_{D25}	$T_C = 25^\circ\text{C}$	13	A
I_{D90}	$T_C = 90^\circ\text{C}$	9	A
E_{AS}	$T_{J \text{ start}} = 25^\circ\text{C}$; single pulse; $I_D = 3.4 \text{ A}$	670	mJ
E_{AR}	$T_{J \text{ start}} = 25^\circ\text{C}$; repetitive; $I_D = 17 \text{ A}$	0.5	mJ
dV/dt	$V_{DS} < V_{DSS}$; $I_F = 17 \text{ A}$; $T_{VJ} = 150^\circ\text{C}$ $dI_R/dt = 100 \text{ A}/\mu\text{s}$	6	V/ns

Features

- Silicon chip on Direct-Copper-Bond substrate
 - high power dissipation
 - isolated mounting surface
 - 2500 V electrical isolation
- 3rd generation CoolMOS™ 1) power MOSFET
 - high blocking capability
 - lowest resistance
 - avalanche rated for unclamped inductive switching (UIS)
- Low thermal resistance due to reduced chip thickness
- Low drain to tab capacitance (<30 pF)

Applications

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

Advantages

- Easy assembly: no screws or isolation foils required
- Space savings
- High power density

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

Symbol	Conditions	Characteristic Values			
		(T _{VJ} = 25°C, unless otherwise specified)			
		min.	typ.	max.	
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}$; $I_D = I_{D90}$		250	290	mΩ
$V_{GS(th)}$	$V_{DS} = V_{GS}$; $I_D = 1 \text{ mA}$	2		4	V
I_{DSS}	$V_{DS} = V_{DSS}$; $V_{GS} = 0 \text{ V}$			25	μA
			125		μA
I_{GSS}	$V_{GS} = \pm 20 \text{ V}$; $V_{DS} = 0 \text{ V}$			± 100	nA
C_{iss}	$V_{GS} = 0 \text{ V}$; $V_{DS} = 25 \text{ V}$; $f = 1 \text{ MHz}$		2300		pF
C_{oss}			1250		pF
C_{rss}			60		pF
Q_g	$V_{GS} = 0 \text{ to } 10 \text{ V}$; $V_{DS} = 640 \text{ V}$; $I_D = I_{D90}$		90		nC
Q_{gs}			10		nC
Q_{gd}			40		nC
$t_{d(on)}$	$V_{GS} = 10 \text{ V}$; $V_{DS} = 640 \text{ V}$; $T_{VJ} = 125^\circ\text{C}$ $I_D = 17 \text{ A}$; $R_G = 4.7 \Omega$		25		ns
t_r			25		ns
$t_{d(off)}$			75		ns
t_f			10		ns
R_{thJC}			1.0		K/W

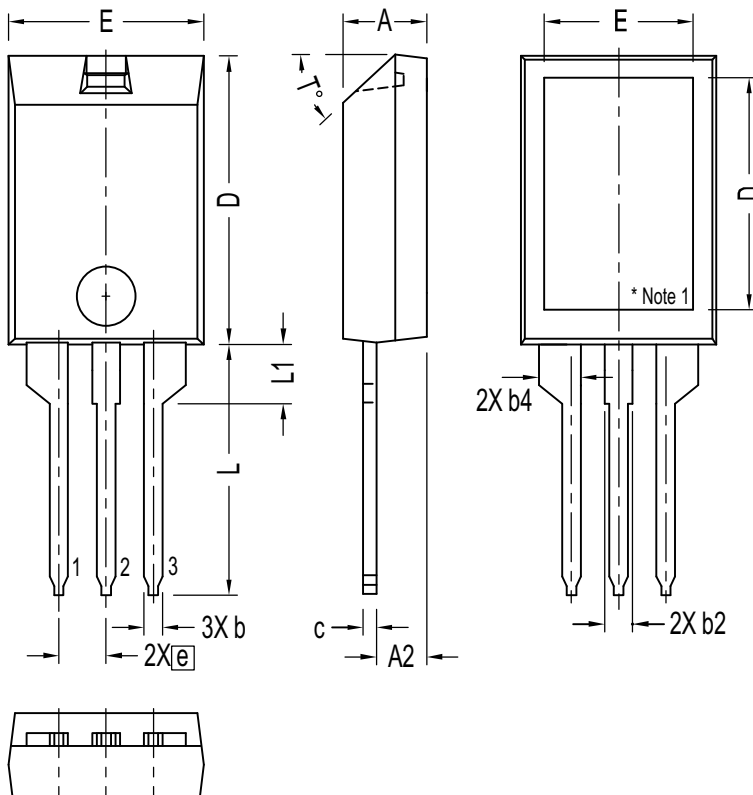
Source-Drain Diode

Symbol	Conditions	Characteristic Values			
		min.	typ.	max.	
($T_{VJ} = 25^{\circ}\text{C}$, unless otherwise specified)					
I_S	$V_{GS} = 0\text{ V}$			17	A
V_{SD}	$I_F = 17\text{ A}; V_{GS} = 0\text{ V}$		1.0	1.2	V
t_{rr}	} $I_F = 17\text{ A}; -di_F/dt = 100\text{ A}/\mu\text{s}; V_R = 400\text{ V}$		550		ns
Q_{RM}			15		μC
I_{RM}			50		A

Component

Symbol	Conditions	Maximum Ratings	
T_{VJ}	operating	-55...+150	$^{\circ}\text{C}$
T_{stg}		-55...+150	$^{\circ}\text{C}$
V_{ISOL}	RMS, lead-to-tab, 50/60 Hz, $f = 1$ minute	2500	V~
F_C	mounting force	11-65/2.4-11	N/lb.

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
R_{thCH}	with heatsink compound		0.3	K/W
Weight			2.7	g

ISOPLUS220™ Outline


SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.157	.197	4.00	5.00
A2	.098	.118	2.50	3.00
b	.035	.051	0.90	1.30
b2	.049	.065	1.25	1.65
b4	.093	.100	2.35	2.55
c	.028	.039	0.70	1.00
D	.591	.630	15.00	16.00
D1	.472	.512	12.00	13.00
E	.394	.433	10.00	11.00
E1	.295	.335	7.50	8.50
e	.100 BASIC		2.55	BASIC
L	.512	.571	13.00	14.50
L1	.118	.138	3.00	3.50
T°			42.5°	47.5°

NOTE:

- Bottom heatsink is electrically isolated from Pin 1, 2, or 3.
- This drawing will meet dimensional requirement of JEDEC SS Product Outline TO-273 except D and D1 dimension.

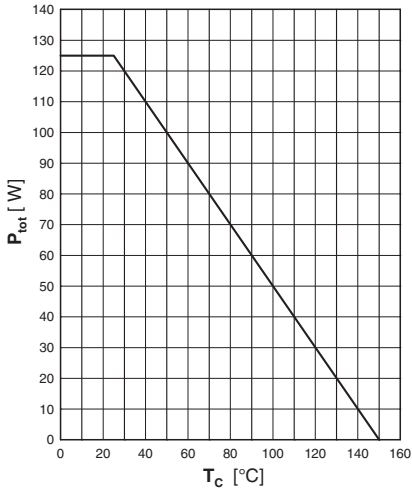


Fig. 1 Power Dissipation

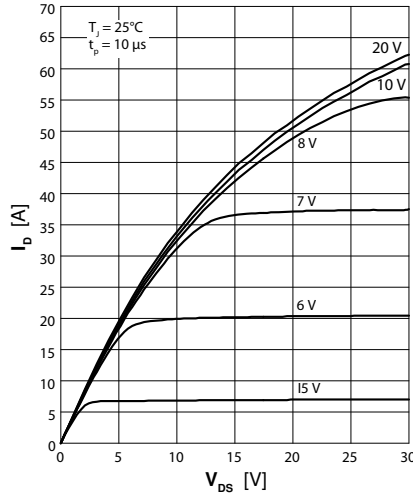


Fig. 2 Typ. Output Characteristics

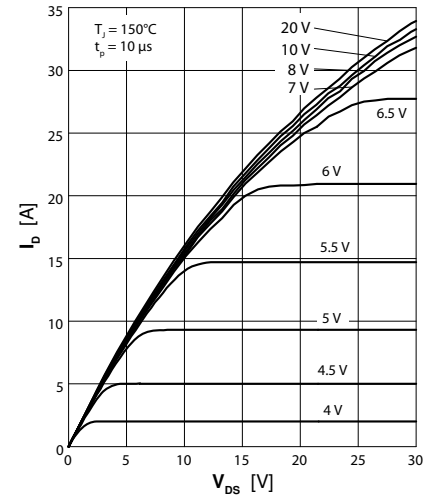


Fig. 3 Typ. Output Characteristics

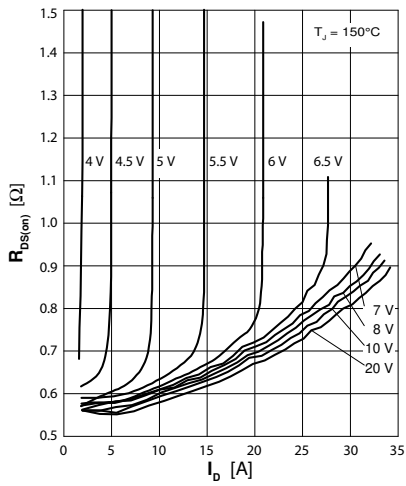


Fig. 4 Typ. Drain-Source on Resistance

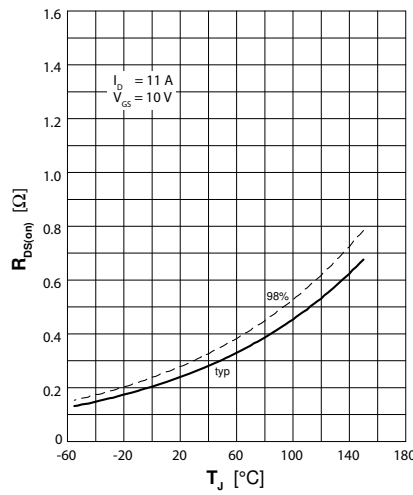


Fig. 5 Drain-Source On-State Resistance

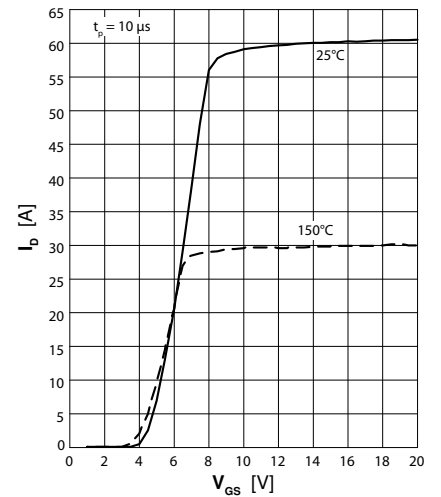


Fig. 6 Typ. Transfer Characteristics

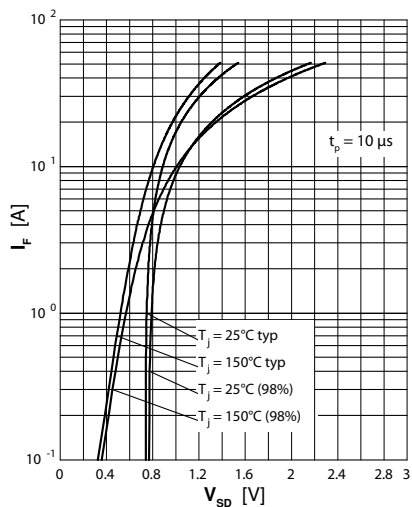


Fig. 7 Forward Characteristics of Body Diode

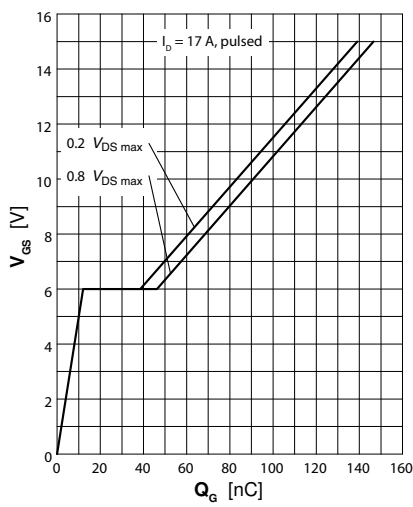


Fig. 8 Typ. Gate Charge

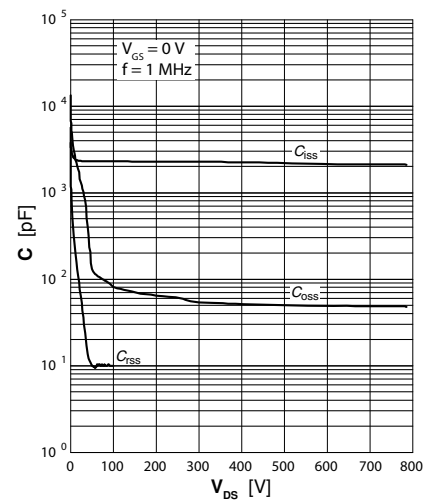


Fig. 9 Capacitance

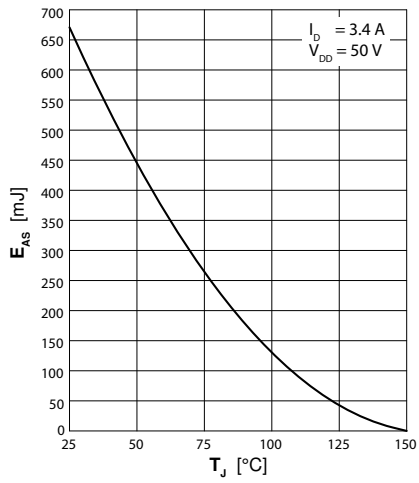


Fig. 10 Typ. Avalanche Energy

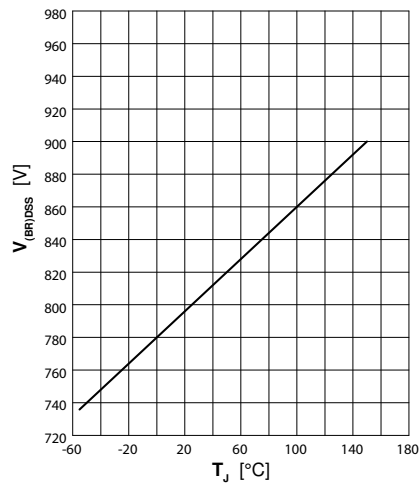


Fig. 11 Drain-Source Breakdown Voltage