

CDMS24720-120

**SILICON CARBIDE
N-CHANNEL MOSFET**



TO-247 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CDMS24720-120 is an N-channel silicon carbide MOSFET designed for high speed switching and fast reverse recovery applications.

**MARKING: CDMS247
20-120**

MAXIMUM RATINGS: ($T_J=25^{\circ}\text{C}$)

Drain-Source Voltage
Gate-Source Voltage
Continuous Drain Current
Pulsed Drain Current
Operating and Storage Junction Temperature
Power Dissipation

SYMBOL

V_{DS} 1200
 V_{GS} 20
 I_D 37
 I_{DM} 80
 T_J, T_{stg} -55 to +175
 P_D 28

UNITS

V
V
A
A
 $^{\circ}\text{C}$
W

ELECTRICAL CHARACTERISTICS: ($T_J=25^{\circ}\text{C}$)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DSS}	$V_{DS}=1200\text{V}, V_{GS}=0\text{V}$		150		nA
I_{GSS}	$V_{GS}=15\text{V}$		100		pA
$r_{DS(ON)}$	$V_{GS}=15\text{V}, I_D=10\text{A}$		20		m Ω
G_m	$V_{DS}=10\text{V}, I_D=10\text{A}$		20		S
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=40\text{mA}$		2.6		V
R_G	$f=1\text{MHz}$		4		Ω
C_{iss}	$V_{DS}=1000\text{V}, V_{GS}=0, f=1.0\text{MHz}$		3		nF
C_{oss}	$V_{DS}=1000\text{V}, V_{GS}=0, f=1.0\text{MHz}$		160		pF
C_{rss}	$V_{DS}=1000\text{V}, V_{GS}=0, f=1.0\text{MHz}$		25		pF
E_{oss}	$V_{DS}=800\text{V}, V_{GS}=15\text{V}, I_D=20\text{A}$		130		μJ
E_{on}	$V_{DS}=800\text{V}, V_{GS}=15\text{V}, I_D=20\text{A}$		2400		μJ
E_{off}	$V_{DS}=800\text{V}, V_{GS}=15\text{V}, I_D=20\text{A}$		320		μJ
t_r	$V_{DS}=800\text{V}, V_{GS}=15\text{V}, I_D=20\text{A}$		60		ns
t_f	$V_{DS}=800\text{V}, V_{GS}=15\text{V}, I_D=20\text{A}$		18		ns
$t_{d(on)}$	$V_{DS}=800\text{V}, V_{GS}=15\text{V}, I_D=20\text{A}$		17		ns
$t_{d(off)}$	$V_{DS}=800\text{V}, V_{GS}=15\text{V}, I_D=20\text{A}$		40		ns
V_{SD}	$V_{GS}=0\text{V}, I_S=5.0\text{A}$			5.0	V

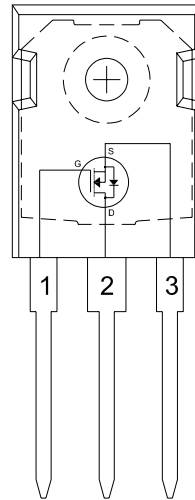
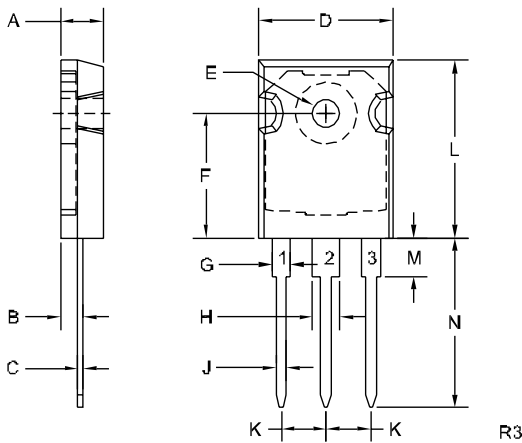
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SILICON CARBIDE

N-CHANNEL MOSFET



TO-247 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Gate
- 2) Drain
- 3) Source

MARKING:

CDMS247

20-120

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.184	0.211	4.68	5.36
B	0.087	0.110	2.20	2.80
C	0.019	0.028	0.48	0.70
D	0.606	0.638	15.38	16.20
E (DIA)	0.128	0.144	3.25	3.65
F	0.583	0.607	14.81	15.42
G	0.072	0.097	1.82	2.46
H	0.115	0.127	2.92	3.23
J	0.035	0.060	0.89	1.53
K	0.207	0.223	5.26	5.66
L	0.812	0.881	20.63	22.38
M	0.145	0.177	3.68	4.50
N	0.728	0.846	18.50	21.50

TO-247 (REV: R3)