

CDMS24740-120

SILICON CARBIDE
N-CHANNEL MOSFET



TO-247 CASE

Central
Semiconductor

www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CDMS24740-120 is an N-channel silicon carbide MOSFET designed for high speed switching and fast reverse recovery applications.

MARKING: CENTRAL

CDMS247

40-120

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
Continuous Power

SYMBOL

SYMBOL		UNITS
V_{DS}	1200	V
V_{GS}	20	V
I_D	26	A
I_{DM}	40	A
T_J, T_{stg}	-55 to +175	$^{\circ}\text{C}$
P_D	28	W

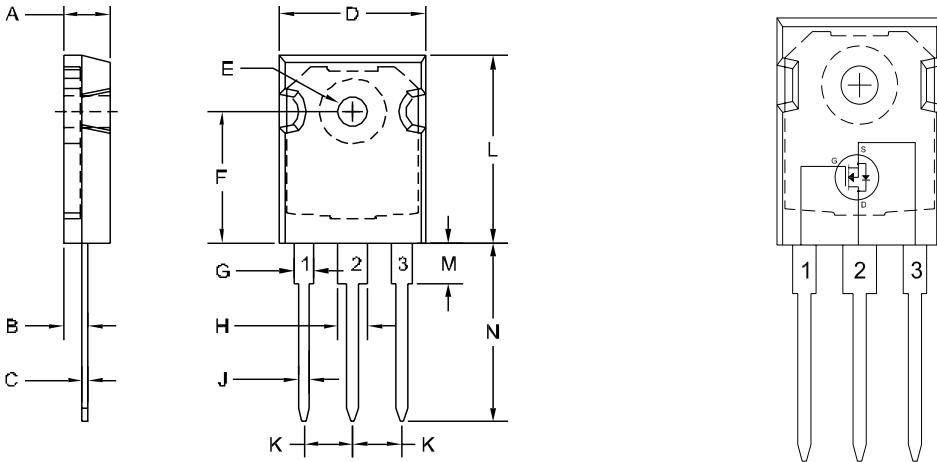
ELECTRICAL CHARACTERISTICS: ($T_J=25^{\circ}\text{C}$)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{DSS}	$V_{DS}=1.2\text{kV}, V_{GS}=0\text{V}$		13		nA
I_{GSS}	$V_{GS}=15\text{V}, V_{DS}=0\text{V}$		50		pA
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=5\text{mA}$		2.5		V
$r_{DS(ON)}$	$V_{GS}=15\text{V}, I_D=8\text{A}$		40		m Ω
V_F	$I_{DS}=8\text{A}$		3.5		V
G_m	$V_{DS}=10\text{V}, I_{DS}=8\text{A}$		10		S
C_{iss}	$V_{DS}=200\text{V}, V_{GS}=0\text{V}, f=1.0\text{MHz}$		1.7		nF
C_{oss}	$V_{DS}=200\text{V}, V_{GS}=0\text{V}, f=1.0\text{MHz}$		160		pF
C_{rss}	$V_{DS}=200\text{V}, V_{GS}=0\text{V}, f=1.0\text{MHz}$		30		pF
E_{oss}	$V_{GS}=15\text{V}, V_{DS}=200\text{V}, f=1.0\text{MHz}$		14		μJ
E_{on}	$V_{GS}=15\text{V}, V_{DS}=200\text{V}, f=1.0\text{MHz}$		150		μJ
E_{off}	$V_{GS}=15\text{V}, V_{DS}=200\text{V}, f=1.0\text{MHz}$		32		μJ
t_r	$V_{GS}=15\text{V}, V_{DS}=960, I_D=8\text{A}$		30		ns
t_f	$V_{GS}=15\text{V}, V_{DS}=960, I_D=8\text{A}$		20		ns
$t_{d(on)}$	$V_{GS}=15\text{V}, V_{DS}=960, I_D=8\text{A}$		30		ns
$t_{d(off)}$	$V_{GS}=15\text{V}, V_{DS}=960, I_D=8\text{A}$		50		ns
R_G	$f=1\text{MHz}$		3.0		Ω

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TO-247 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

**MARKING: CENTRAL
 CDMS247
 40-120**

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)