

Product Brief



spacellite™ CSLLDM22011-225F 11A, 225V Low $r_{DS(ON)}$ N-Channel MOSFETs

IDEAL FOR LOW EARTH ORBIT (LEO) SATELLITE POWER SUPPLIES



what is spacellite™

Spacellite discrete semiconductors are designed to meet the reliability and functionality specifications for today's commercial satellite applications.



why spacellite™

- Reduced cost without compromised quality or reliability
- Meets Space 2.0 methodology
- Ideal for LEO applications for the latest satellite technologies
- Equivalent to MIL-PRF-19500 and MIL-PRF-38534

spacellite™ benefits

- Optional gold wire bonds
- "State of the art" advanced device technology utilized
- In addition to bare die, both plastic and hermetic packages are available, including other possible options:
 - TO-220
 - TO-247
 - TO-257
 - Various other metal can & surface mount packages

Features

- High voltage capability
- Low gate charge ($Q_{GS}=4.45nC$ TYP)
- Low $r_{DS(ON)}$ (0.3Ω TYP)
- **Also available as bare die (CP399-DM11-225)**

Applications

- Satellite power supplies
- Solar panel inverters

Screening

Level	KRad	COTS	PEM*
Spacellite Commercial	10	●	
Spacellite	10		●
Spacellite Plus	30		
Spacellite Ultra	60		
Spacellite Space	100		

*BASED ON PEM TEST FLOW: PEM-INST-001

Central Item No.	Maximum Ratings: ($T_A = 25^\circ C$)				Electrical Characteristics: ($T_A = 25^\circ C$)								Case Type		
	I_D (A)	P_D (W)	T_J, T_{stg} ($^\circ C$)	Θ_{JA} ($^\circ C/W$)	BV_{DSS} (V)	$V_{GS(th)}$ (V)		$r_{DS(ON)}$ (Ω)		@ V_{GS}	@ I_D	$Q_g(tot)$ (nC)		C_{iss} (pF)	C_{rss} (pF)
	MAX	MAX	MAX	MAX	MIN	MIN	MAX	TYP	MAX	(V)	(A)	TYP		TYP	TYP
CSLLDM22011-225F	11	25	-55 to +150	120	600	2.0	4.0	0.30	0.36	10	5.5	23.05	763	2.76	TO-220FP
CSLLDM22011-225F Post-TID*: <i>See below for conditions.</i>					600	0.4	1.6	--	0.36	10	5.5				

*TID:

10 kRad(Si)

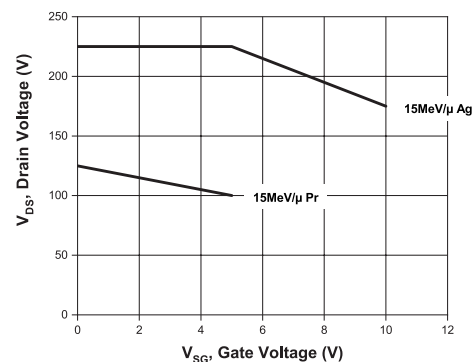
TEST CONDITIONS:

$V_{GS}=15V, V_{DS}=0$

Single Event Effect Safe Operating Area:

Ion	Range	Let
Ag	111.2μm	44.9MeV-cm ² /mg
Pr	117.0μm	61.3MeV-cm ² /mg

Safe Operating Area



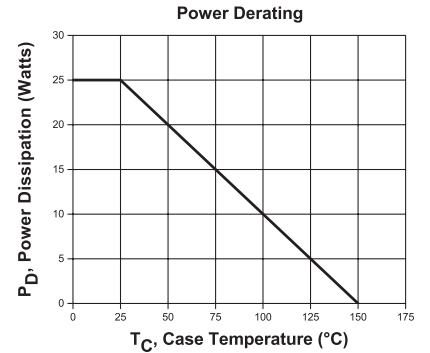
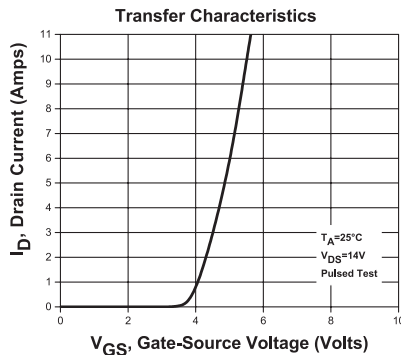
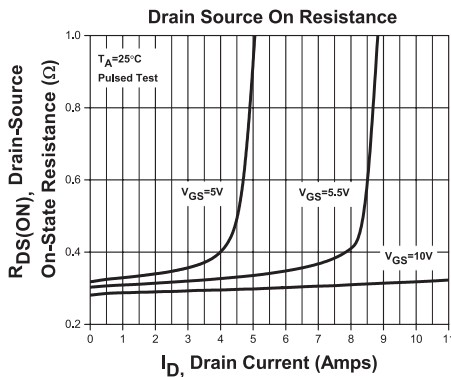
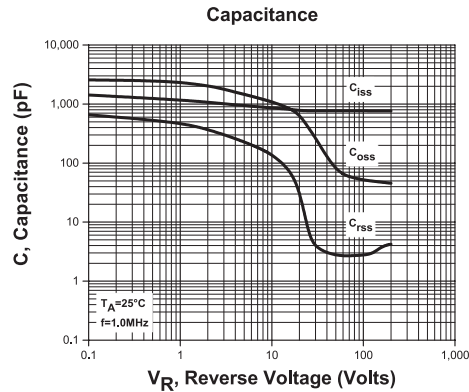
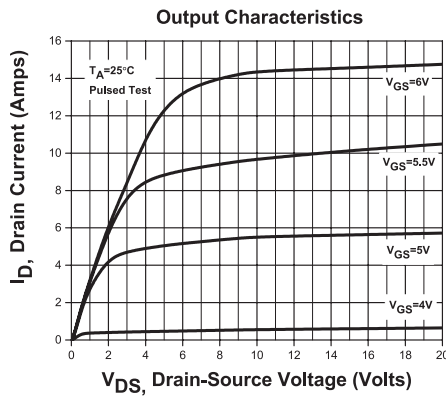
Latest hi-rel test flows available online:

Visit www.centrasemi.com/mil-equivalent-packaged.

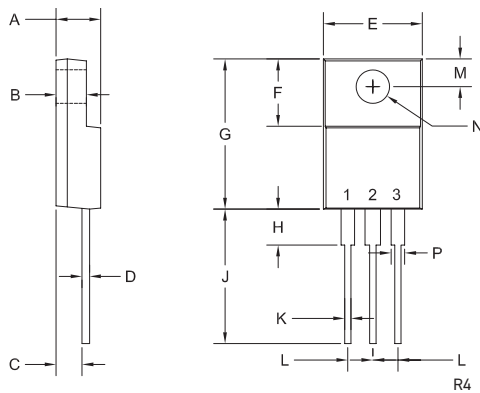
SPICE Models, Package Details and other technical resources:

Engineering resources are available at www.centrasemi.com.

Typical Electrical Characteristics:



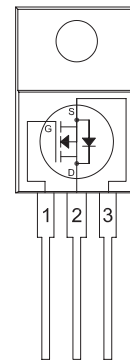
Mechanical Drawing: TO-220FP



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.165	0.202	4.20	5.12
B	0.090	0.130	2.30	3.30
C	0.098	0.122	2.50	3.10
D	-	0.031	-	0.80
E	0.382	0.418	9.70	10.63
F	0.238	0.276	6.06	7.00
G	0.583	0.640	14.80	16.25
H	-	0.161	-	4.10
J	0.506	0.543	12.85	13.80
K	0.020	0.031	0.50	0.79
L	-	0.100	-	2.54
M	0.120	0.140	3.05	3.55
N (DIA)	0.116	0.134	2.95	3.40
P	0.039	0.058	1.00	1.47

TO-220FP (REV: R4)

Pin Configuration



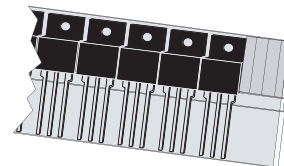
LEAD CODE:
1) Gate
2) Drain
3) Source

MARKING CODE:
CSLL11225
TO-220FP
D/C

Packing Configuration

Sleeve:
Antistatic coated plastic sleeve
(surface resistivity of $>10^9$
and $<10^{13}$ ohms per square)

Sleeve Packing Quantity:
50 devices



TO-220FP
Antistatic Sleeve

For more information on Central's products and solutions:

Call us at: **1.631.435.1110**

Or view online: www.centralsemi.com/featured-products

Custom
Solutions
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