

## Super Junction Silicon MOSFETs

650V | 4.7A, 7.3A, 10A, 13.8A, 29A



Central's new Super Junction devices are silicon N-channel MOSFETs designed for high-voltage, fast-switching applications. Their unique die structure supports high voltage with comparatively low on-resistance and gate charges. Solar power inverters, electric vehicle inverters, and switch mode power supplies are just some of the potential applications for this technology.

### Features

- Low on-resistance relative to  $V_{DS}$  maximum
- High blocking voltage
- Fast switching speeds

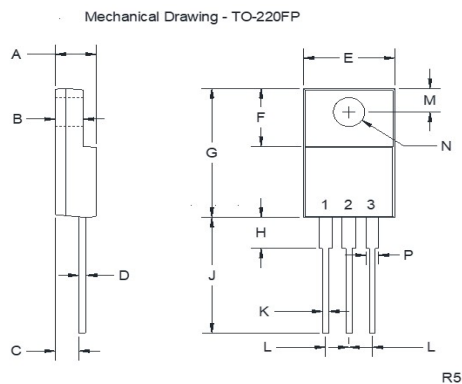
### Applications

- Electric vehicle inverters
- Solar power inverters
- Power factor correction (PFC)
- Switch mode power supplies (SMPS)

### Benefits

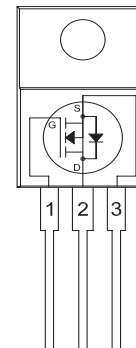
- Low switching losses
- Innately high-reliability die design
- Increased power output

Central Item No.	Maximum Ratings ( $T_A = 25^\circ\text{C}$ )				Electrical Characteristics: ( $T_A = 25^\circ\text{C}$ )								Case Type		
	$I_D$	$P_D$	$T_J, T_{stg}$	$\Theta_{JA}$	$BV_{DSS}$	$V_{GS(th)}$		$r_{DS(ON)}$		@ $V_{GS}$	@ $I_D$	$Q_{g(tot)}$		$C_{iss}$	$C_{rss}$
	(A)	(W)	( $^\circ\text{C}$ )	( $^\circ\text{C/W}$ )	(V)	MIN	MAX	( $\Omega$ )	( $\Omega$ )	(V)	(A)	(nC)		(pF)	(pF)
	MAX	MAX	MAX	MAX	MIN	MIN	MAX	TYP	MAX			TYP	TYP	TYP	
CDMSJ2204.7-650	4.7	22.5	-55 to +150	62.5	650	2	4	861	990	10	2	9.7	306	7	TO-220FP
CDMSJ2207.3-650	7.3	32	-55 to +150	62.5	650	2	4	502	600	10	2.1	17	554	9	TO-220FP
CDMSJ22010-650	10	29.5	-55 to +150	62.5	650	2	4	340	390	10	5	19	726	8	TO-220FP
CDMSJ22013.8-650	13.8	35.7	-55 to +150	62.5	650	2	4	248	280	10	4.4	30	1040	11	TO-220FP
CDMSJ22029-650	29	33	-55 to +150	62.5	650	2	4	113	130	10	10.8	51	1920	8	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	-	0.177	-	4.50
J	0.503	0.543	12.78	13.80
K	0.020	0.035	0.50	0.90
L	0.100	-	2.54	-
M	0.100	0.140	2.55	3.55
N (DIA)	0.116	0.134	2.95	3.40
P	0.039	0.058	1.00	1.47

TO-220FP (REV: R5)



MARKING CODE	
CDMSJ2204.7-650	CDMSJ 4.7-650
CDMSJ2207.3-650	CDMSJ 7.3-650
CDMSJ22010-650	CDMSJ 10-650
CDMSJ22013.8-650	CDMSJ 13.8-650
CDMSJ22029-650	CDMSJ 29-650

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

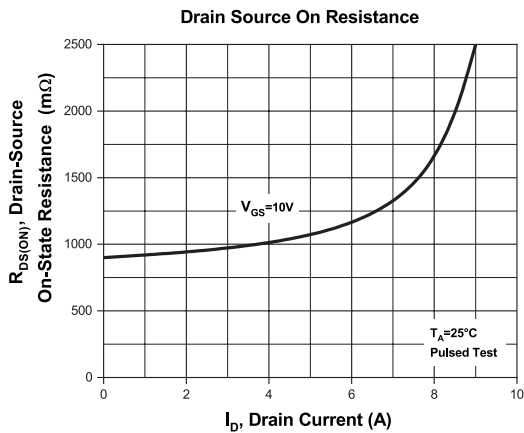
#### SPICE Models and other technical resources:

Visit [www.centrasemi.com](http://www.centrasemi.com) to download SPICE models for these devices.

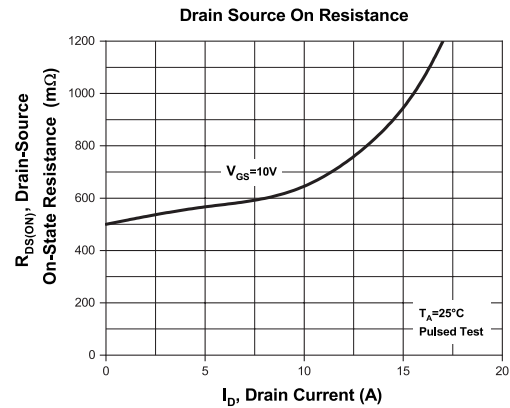
#### RoHS and REACH compliance declarations

Visit the Quality section of Central's website to access.

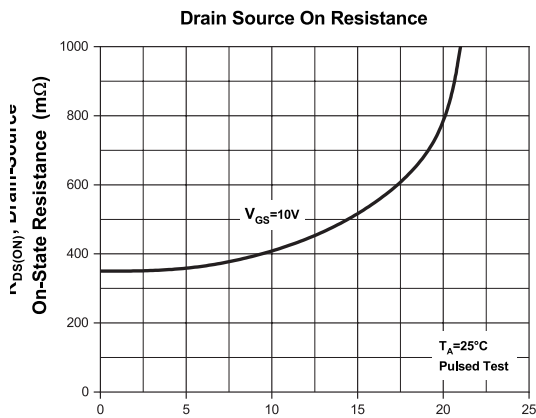
**CDMSJ2204.7-650**



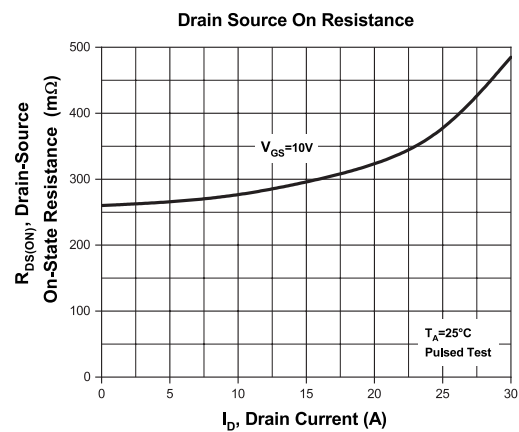
**CDMSJ2207.3-650**



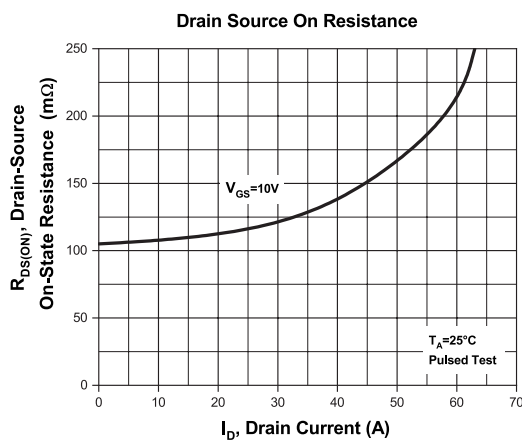
**CDMSJ22010-650**



**CDMSJ22013.8-650**



**CDMSJ22029-650**



**Custom solutions also available:**

- custom device development
- special wafer diffusions
- custom interconnect options
- packaging options
- specialized parametric testing
- up-screening to MIL standard equivalents or to customer-specific criteria

For more information on Central's products and potential solutions:

Call us at: **1.631.435.1110**

Or view online: [www.centralsemi.com/featured-products](http://www.centralsemi.com/featured-products)

Just Ask