

CMJ0130  
THRU  
CMJH220

**SURFACE MOUNT SILICON  
CURRENT LIMITING DIODES**



**SOD-123FL CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMJ0130 series devices are silicon field effect current regulator diodes designed for applications requiring a constant current over a wide voltage range. These devices are manufactured in the epoxy molded, low profile SOD-123FL case. Special selections of  $I_P$  (regulator current) are available for critical applications.

**MARKING: SEE MARKING CODES ON ELECTRICAL CHARACTERISTICS TABLE**

**FEATURES:**

- High Reliability
- Superior Lot to Lot Consistency
- Special Selections Available
- Ledged Devices Available

**MAXIMUM RATINGS:** ( $T_A=60^\circ\text{C}$ )

Peak Operating Voltage (CMJ0130 THRU CMJ5750)  
Peak Operating Voltage (CMJH080 THRU CMJH220)  
Power Dissipation  
Operating and Storage Junction Temperature  
Thermal Resistance

**SYMBOL**

SYMBOL		UNITS
$P_{OV}$	100	V
$P_{OV}$	50	V
$P_D$	500	mW
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
$\theta_{JA}$	180	$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

Type	Regulator Current (Note 1)			Minimum Dynamic Impedance	Minimum Knee Impedance	Maximum Limiting Voltage	Temperature Coefficient (Note 2)	Marking Code
	$I_P @ V_T=25\text{V}$			$Z_T @ V_T=25\text{V}$	$Z_K @ V_K=6.0\text{V}$	$V_L @ I_L=0.8 \times I_P \text{ MIN}$	TC	
	MIN mA	NOM mA	MAX mA	M $\Omega$	k $\Omega$	V	%/ $^\circ\text{C}$	
CMJ0130	0.05	0.13	0.21	6.0	2,000	0.6	+2.10 to +0.10	101
CMJ0300	0.20	0.31	0.42	4.0	1,000	0.8	+0.40 to -0.20	301
CMJ0500	0.40	0.515	0.63	2.0	500	1.1	+0.15 to -0.25	501
CMJ0750	0.60	0.76	0.92	1.0	200	1.4	0.0 to -0.32	701
CMJ1000	0.88	1.1	1.32	0.65	100	1.7	-0.10 to -0.37	102
CMJ1500	1.28	1.5	1.72	0.45	70	2.0	-0.13 to -0.40	152
CMJ2000	1.68	2.0	2.32	0.35	50	2.3	-0.15 to -0.42	202
CMJ2700	2.28	2.69	3.1	0.30	30	2.7	-0.18 to -0.45	272
CMJ3500	3.0	3.55	4.1	0.25	20	3.2	-0.20 to -0.47	352
CMJ4500	3.9	4.5	5.1	0.20	10	3.7	-0.22 to -0.50	452
CMJ5750	5.0	5.75	6.5	0.05	5.0	4.5	-0.25 to -0.53	562
CMJH080	6.56	8.2	9.84	0.32	15	3.1	-0.25 to -0.45	822
CMJH100	8.0	10	12	0.17	6.0	3.5	-0.25 to -0.45	103
CMJH120	9.6	12	14.4	0.08	3.0	3.8	-0.25 to -0.45	123
CMJH150	12	15	18	0.03	2.0	4.3	-0.25 to -0.45	153
CMJH180	16	18	20	0.02	1.8	4.6	-0.25 to -0.45	183
CMJH220	20	22.5	25	0.01	1.6	5.3	-0.25 to -0.45	223

Notes: 1) Pulsed Method: Pulse Width (ms) = 27.5 divided by  $I_P \text{ NOM}$  (mA)  
2) The Temperature Coefficient is measured between +25 $^\circ\text{C}$  and +50 $^\circ\text{C}$ .

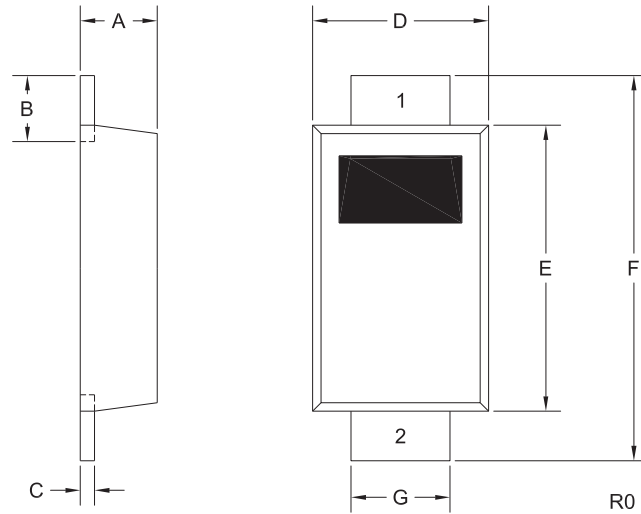
R4 (4-January 2016)

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**SOD-123FL CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

- 1) Cathode
- 2) Anode

**MARKING: SEE ELECTRICAL  
CHARACTERISTICS TABLE**

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.024	0.031	0.60	0.80
B	0.020	0.028	0.50	0.70
C	0.003	0.007	0.08	0.18
D	0.059	0.067	1.50	1.70
E	0.094	0.110	2.40	2.80
F	0.130	0.146	3.30	3.70
G	0.031	0.039	0.80	1.00

SOD-123FL (REV:R0)

R4 (4-January 2016)

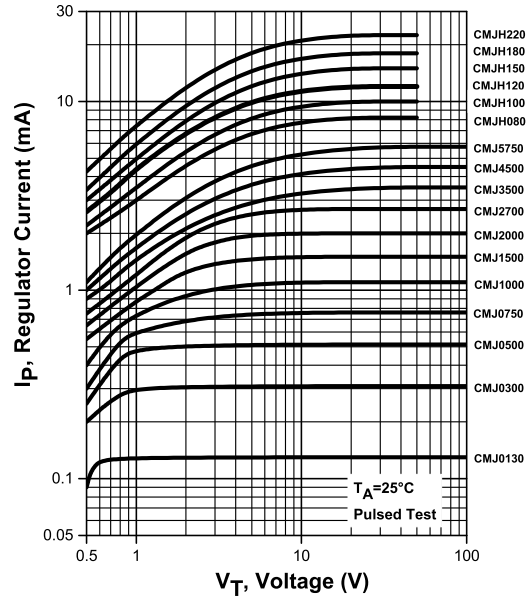
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SURFACE MOUNT SILICON  
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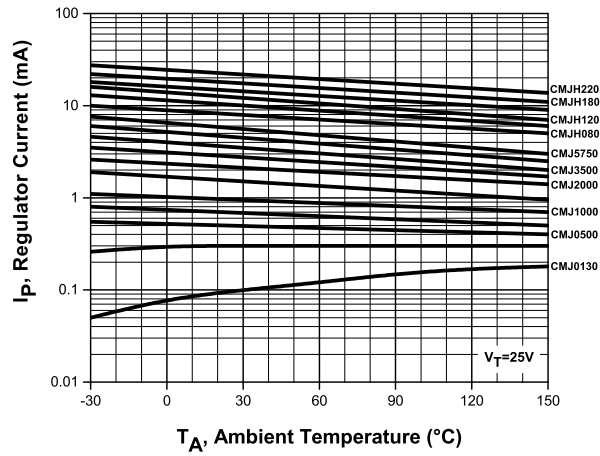


TYPICAL ELECTRICAL CHARACTERISTICS

Regulator Current vs Voltage



Nominal Regulator Current vs Temperature



R4 (4-January 2016)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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