

CMJ0130
THRU
CMJH220

**SURFACE MOUNT SILICON
CURRENT LIMITING DIODES**



SOD-123FL CASE



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
- Special selections available
- Through hole 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 | | UNITS |
|----------------|-------------|--------------------|
| P_{OV} | 100 | V |
| P_{OV} | 50 | V |
| P_D | 500 | mW |
| T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| θ_{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 Ω | k Ω | 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 NOM (mA)
2) The Temperature Coefficient is measured between + 25 $^\circ\text{C}$ and +50 $^\circ\text{C}$.

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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)

R6 (24-July 2019)

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TYPICAL ELECTRICAL CHARACTERISTICS



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

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- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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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