| 42050 | POSITIVE VOLTAGE REGULATORS<br>Commercial or Military | Mii<br>HYBRID MICROELECTRONICS<br>PRODUCTS DIVISION |
|---|---|---|

**Features:**

- Output Current To 10 Amps
- Output Voltage To 34 V
- Internal Short Circuit Protection
- Custom Output Voltages available

**Applications:**

- Designed for use in general purpose applications.
- Military And Hi Rel Industrial Applications Where Hermetically Sealed Product Is Required

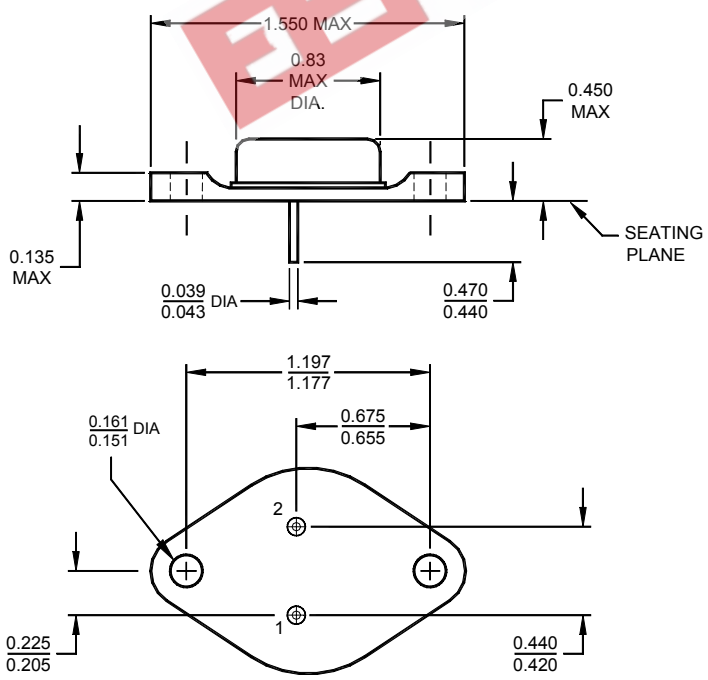
## DESCRIPTION

The 42050 series of regulators covers the output voltage range from 5 VDC through 34 VDC. These regulators are fabricated using hybrid techniques. The devices are complete with internal short circuit protection, which includes voltage shutdown and current fold back. The 42050 series regulators are complete and normally do not require any additional components. However, if the regulator is far from the power source a .2 μf capacitor on the input is suggested.

## ABSOLUTE MAXIMUM RATINGS

Output Current - $I_{OUT}$ ..... 10 A
Power Dissipation @ 25°C Case Temperature - $P_D$ ..... 120 W
Input Voltage - $V_{IN}$ ..... 40 V
Operating Temperature ..... -55°C to +125°C
Storage Temperature ..... –65°C to + 150°C

### Mechanical Configuration




| PIN | FUNCTION |
|---|---|
| 1 | GROUND |
| 2 | $V_{OUT}$ |
| CASE | $V_{IN}$ |



MICROPAC INDUSTRIES, INC. HYBRID MICROELECTRONICS PRODUCTS DIVISION • 905 E. Walnut St., Garland, TX 75040 • (972) 272-3571 • Fax (972) 494-2281
www.micropac.com E-MAIL: hybridsales@micropac.com 05/16/01

## ELECTRICAL CHARACTERISTICS (Note 1)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| Output Voltage | $V_{OUT}$ | $I_{OUT}$ = 1A, $^{V}IN - ^{V}O$ = 5 V | $V_{OUT}$ -0.1 V | $V_{OUT}$ | $V_{OUT}$ +0.1 V | VDC |
| Differential Voltage $V_{IN}$ - $V_{OUT}$ | $\Delta V$ | $I_{OUT} = I_{MAX}$ | 5 | | | VDC |
| Line Regulation (Note 3) | | $V_{IN} - V_O$ = 5 V to $V_{IN}$ = 40 V $I_{OUT}$ = .5 A | | | 0.1 | % $V_{OUT}$ |
| Load Regulation (Note 2) | | $I_{OUT}$ = .5 A to $I_{OUT} = I_{MAX}$ $V_{IN} = V_{OUT}$ + 5 V | | | 40 | mV |
| Ripple Rejection | | f = 50 to 500 Hz 1.0Vpp $V_{IN} - V_O$ = 5 V | 60 | | | dB |
| Temperature Coefficient | TC | 0°C ≤ $T_C$ ≤ 100°C | | .05 | | %/°C |
| Standby Current | $I_S$ | | | | 25 | mA |
| Thermal Resistance | $\theta_{jc}$ | | | 1 | | °C/W |
| Long Term Stability | | | | 0.1 | | %/1000 hrs |

Note 1: Case temperature 25°C unless otherwise specified.
Note 2: Voltage measured at Pin 2 within .05 inches from case.
Note 3: Instantaneous regulation, average chip temperature changes must be accounted for separately.

### 42050 HYBRID VOLTAGE REGULATOR DEVICES
### Standards Available

| TYPE | $V_{OUT}$ (VDC) | MAX $I_{OUT}$ (A) | $I_{KNEE}$ TYP(A) | $I_{SC}$ TYP(A) |
|---|---|---|---|---|
| 42050 - 055 | 5 | 5 | 6.5 | 2.5 |
| 510 | 5 | 10 | 13 | 3.5 |
| 610 | 6 | 10 | 13 | 3.5 |
| 710 | 7 | 10 | 13 | 3.5 |
| 810 | 8 | 10 | 13 | 3.5 |
| 910 | 9 | 10 | 13 | 3.5 |
| 109 | 10 | 9 | 13 | 3.5 |
| 128 | 12 | 8 | 10 | 3 |
| 148 | 14 | 8 | 10 | 3 |
| 158 | 15 | 8 | 10 | 3 |
| 168 | 16 | 8 | 10 | 3 |
| 188 | 18 | 8 | 10 | 3 |
| 208 | 20 | 8 | 10 | 3 |
| 224 | 22 | 4 | 5.5 | 2 |
| 244 | 24 | 4 | 5.5 | 2 |
| 264 | 26 | 4 | 5.5 | 2 |
| 284 | 28 | 4 | 5.5 | 2 |
| 304 | 30 | 4 | 5.5 | 2 |
| 324 | 32 | 4 | 5.5 | 2 |
| 344 | 34 | 4 | 5.5 | 2 |

Figure 1. Power Derating

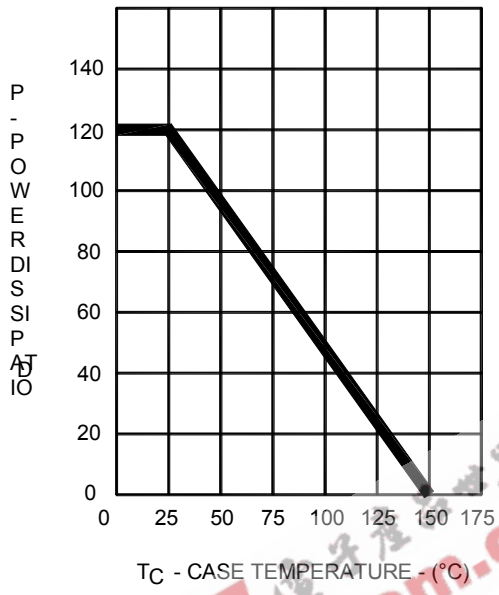



Figure 2. Typical Output Characteristics