

Short Form Catalog v6.4

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PowerAmp Design

Simple Power Op Amp Solutions

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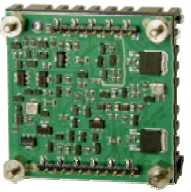

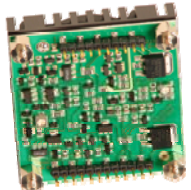



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PowerAmp Design specializes in high power operational amplifiers for industrial applications. With a new concept for component amplifiers, these hybrid circuit designs feature surface mount component construction on an insulated metal substrate. Integrated heat sink and fan provide optimum cooling. Our new approach decreases weight and system complexity while increasing power density.










Power Operational Amplifiers









*RoHS compliant











| Model | V _{RANGE} (V) V _{TOTAL} (V) | I _C (A) | I _{PK} (A) | P _{OUT} (W) | P _{DISS} (W) | P _{BW} V _{P-P} [@kHz] | SR V/μS | Features | Accessory Modules | Evaluation Kit* |
|---|--|--------------------|---------------------|----------------------|-----------------------|---|------------|--|--|---|
|  PAD01* | ±15 - ±50 30 - 100 | 5 | 7 | 50 | 30 | 90 [100] | 35 | <ul style="list-style-type: none"> • 30mm square footprint • External compensation • Programmable current limit | NA |  EVAL01 |
|  PAD20 | ±15 - ±75 30 - 150 | 5 | 7 | 80 | 40 | 130 [10] | 5 | <ul style="list-style-type: none"> • Temperature reporting • Over-temp shutdown • 4-wire current limit • 40mm square footprint | PAD125 PAD131 |  EVAL20 |
|  PAD38 | ±15 - ±100 30 - 200 | 10 | 25 | 250 | 125 | 180 [33] | 10 | <ul style="list-style-type: none"> • External compensation • Programmable current limit | NA | NA |
|  PAD39 | ±15 - ±50 30 - 100 | 10 | 25 | 200 | 125 | 80 [80] | 10 | <ul style="list-style-type: none"> • External compensation • Programmable current limit | NA | NA |

| Model | V _{RANGE} (V) V _{TOTAL} (V) | I _C (A) | I _{PK} (A) | P _{OUT} (W) | P _{DISS} (W) | P _{BW} V _{P-P} [kHz] | SR V/μS | Features | Accessory Modules | Evaluation Kit* |
|--|--|--------------------|---------------------|----------------------|-----------------------|---|---------|---|--|--|
|  PAD108* | ±15 - ±100 30 - 200 | 10 | 12 | 200 | 100 | 180 [300] | 170 | <ul style="list-style-type: none"> External compensation Programmable current limit | NA | NA |
|  PAD111* | ±15 - ±50 30 - 100 | 15 | 50 | 250 | 170 | 90 [500] | 130 | <ul style="list-style-type: none"> External compensation Programmable current limit | NA | NA |
|  PAD112 | ±15 - ±75 30 - 150 | 5 | 7 | 100 | 50 | 130 [30] | 14 | <ul style="list-style-type: none"> Temperature reporting Over-temp shutdown 4-wire current limit | PAD125 PAD131 |  EVAL112 |
|  PAD113 | ±15 - ±250 30 - 500 | 1.5 | 3 | 96 | 29 | 480 [15] | 40 | <ul style="list-style-type: none"> Temperature reporting Over-temp shutdown 4-wire current limit | PAD125 PAD131 |  EVAL112 |
|  PAD115A* | ±10 - ±150 20 - 300 | 20 | 30 | 400 | 165 | 280 [7] | 8 | <ul style="list-style-type: none"> Temperature reporting Over-temp shutdown | PAD125 PAD131 |  EVAL118 |

| Model | V _{RANGE} (V) V _{TOTAL} (V) | I _C (A) | I _{PK} (A) | P _{OUT} (W) | P _{DISS} (W) | P _{BW} V _{P-P} [@kHz] | SR V/μS | Features | Accessory Modules | Evaluation Kit* |
|---|--|--------------------|---------------------|----------------------|-----------------------|---|------------|---|--|--|
|  PAD117A | ±5 - ±50 10 - 100 | 15 | 20 | 250 | 100 | 90 [23] | 8 | <ul style="list-style-type: none"> • RRIO (rail to rail input/output) • Temperature reporting • Over-temp shutdown • 4-wire current limit | PAD125 PAD131 |  EVAL117 |
|  PAD118 | ±10 - ±50 20 - 100 | 30 | 40 | 400 | 165 | 90 [20] | 8 | <ul style="list-style-type: none"> • Temperature reporting • Over-temp shutdown | PAD125 PAD131 |  EVAL118 |
|  PAD119A * | ±10 - ±100 20 - 200 | 20 | 30 | 400 | 165 | 90 [20] | 8 | <ul style="list-style-type: none"> • Temperature reporting • Over-temp shutdown | PAD125 PAD131 |  EVAL118 |
|  PAD126 | ±20 - ±250 40 - 500 | 10 | 12 | 450 | 150 | 480 [25] | 50 | <ul style="list-style-type: none"> • Temperature reporting • Over-temp shutdown • 4-wire current limit | PAD125 PAD131 |  EVAL126 |
|  PAD127 | ±5 - ±50 10 - 100 | 30 | 40 | 450 | 225 | 90 [10] | 8 | <ul style="list-style-type: none"> • RRIO (rail to rail input/output) • Temperature reporting • Over-temp shutdown • 4-wire current limit | PAD125 PAD131 |  EVAL127 |

| Model | V _{RANGE} (V) V _{TOTAL} (V) | I _C (A) | I _{PK} (A) | P _{OUT} (W) | P _{DISS} (W) | P _{BW} V _{P-P} [@kHz] | SR V/μS | Features | Accessory Modules | Evaluation Kit* |
|--|--|--------------------|---------------------|----------------------|-----------------------|---|------------|--|--|--|
|  PAD128 | ±10 - ±50 10 - 100 | 20 | 30 | 400 | 140 | 90 [20] | 16 | <ul style="list-style-type: none"> • RRIO w/PAD130 • Temperature reporting • Over-temp shutdown • 4-wire current limit • Low distortion | PAD125 PAD130 PAD131 |  EVAL129 |
|  PAD129* | ±10 - ±100 20 - 200 | 15 | 20 | 400 | 140 | 90 [20] | 37 | <ul style="list-style-type: none"> • RRIO w/PAD132 • Temperature reporting • Over-temp shutdown • 4-wire current limit • High power bandwidth | PAD125 PAD131 PAD132 |  EVAL129 |
|  PAD135* | ±15 - ±100 30 - 200 | 5 | 10 | 80 | 40 | 180 [350] | 200 | <ul style="list-style-type: none"> • Low cost • Small size 40mm square • High voltage- 200 volts • 350kHz power bandwidth • 200V/μS slew rate • 40mm square footprint | NA |  EVAL135 |
|  PAD136* | ±15 - ±100 30 - 200 | 7 | 10 | 150 | 100 | 180 [350] | 200 | <ul style="list-style-type: none"> • Low cost • Small size 40X45mm • High voltage- 200 volts • 350kHz power bandwidth • 200V/μS slew rate • Higher power version of PAD135 | NA | Pinout is same as PAD135 but user will need to supply heat sink |
|  PAD137 | ±5 - ±50 10 - 100 | 20 | 30 | 400 | 140 | 90 [23] | 8 | <ul style="list-style-type: none"> • RRIO (rail to rail input/output) • Temperature reporting • Over-temp shutdown • 4-wire current limit | PAD125 PAD131 |  EVAL137 |

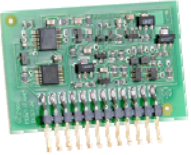



| Model | V _{RANGE} (V) V _{TOTAL} (V) | I _C (A) | I _{PK} (A) | P _{OUT} (W) | P _{DISS} (W) | P _{BW} V _{P-P} [kHz] | SR V/μS | Features | Accessory Modules | Evaluation Kit* |
|--|--|--------------------|---------------------|----------------------|-----------------------|---|---------|--|-------------------|--|
|  PAD138* | ±15 - ±100 30 - 200 | 10 | 12 | 240 | 75 | 180 [30] | 30 | <ul style="list-style-type: none"> • Low cost • Small size 40mm square • High voltage- 200 volts • 30kHz power bandwidth • 30V/μS slew rate | NA |  EVAL138 |
|  PAD141* | ±6 - ±50 12 - 100 | 10 | 15 | 240 | 75 | 90 [28] | 7 | <ul style="list-style-type: none"> • Low cost • Small size 40mm square • Single supply operation • High voltage- 100 volts • 28kHz power bandwidth • 7V/μS slew rate | NA |  EVAL138 |
|  PAD149* Release date TBA | ±15 - ±100 30 - 200 | 10 | 12 | 240 | 125 | 180 [150] | 100 | <ul style="list-style-type: none"> • Low cost • High voltage- 200 volts • 100kHz power bandwidth • Temperature Reporting • Short circuit protection • External shutdown | NA | NA |
|  PAD150* | ±15 - ±50 30 - 100 | 10 | 20 | 200 | 125 | 90 [500] | 200 | <ul style="list-style-type: none"> • Low cost • Small size 40X45mm • High voltage- 100 volts • 500kHz power bandwidth • 200V/μS slew rate • Higher current version of PAD136 | NA | Pinout is same as PAD135 but user will need to supply heat sink |
|  PAD183* | ±15 - ±175 30 - 350 | 1.5 | 2.0 | 70 | 35 | 330 [100] | 100 | <ul style="list-style-type: none"> • Low cost • Small size 40mm square • High voltage- 350 volts • 100kHz power bandwidth • 100V/μS slew rate • 40mm square footprint | NA |  EVAL183 |

| Model | V _{RANGE} (V) V _{TOTAL} (V) | I _C (A) | I _{PK} (A) | P _{OUT} (W) | P _{DISS} (W) | P _{BW} V _{P-P} [kHz] | SR V/μS | Features | Accessory Modules | Evaluation Kit* |
|--|--|--------------------|---------------------|----------------------|-----------------------|---|---------|---|-------------------|--|
|  PAD188 | ±25 - ±262.5 50 - 525 | 0.1 | 0.2 | 10 | 5 | 960 [2] | 3 | <ul style="list-style-type: none"> External compensation Programmable current limit Conformal coated 1mA quiescent current | NA |  EVAL188 |
|  PAD189A | ±50 - ±525 100 - 1050 | 1.5 | 1.5 | 180 | 60 | 960 [10] | 30 | <ul style="list-style-type: none"> External compensation 4-wire current limit Conformal coated | NA |  EVAL189 |
|  PAD195 | ±50 - ±520 100 - 1040 | 0.1 | 0.2 | 40 | 20 | 1000 [1] | 20 | <ul style="list-style-type: none"> External compensation Programmable current limit Conformal coated 1mA quiescent current | NA |  EVAL195 |
|  PAD196 | ±50 - ±1025 100 - 2050 | 0.05 | 0.1 | 24 | 12 | 2000 [0.5] | 5 | <ul style="list-style-type: none"> External compensation Programmable current limit Conformal coated 1mA quiescent current | NA |  EVAL196 |
|  PAD541 | ±10 - ±50 20 - 100 | 5 | 7.0 | 100 | 50 | 80 [57] | 14 | <ul style="list-style-type: none"> Low cost SIP design 0.63" height High voltage- 100 volts External compensation Programmable current limit | NA |  EVAL541 |

*RoHS compliant

Accessory modules provide additional optional features for the power op amp models.

Accessory Modules

| Model | Function | V _{RANGE} (V) V _{TOTAL} (V) | OUTPUT | Features | Compatible Amplifiers* |
|---|-------------------------|--|---------------------------|---|---|
|  PAD125 | Current Limit | ±8 - ±250 16 - 500 | 5V Logic Signals | <ul style="list-style-type: none"> • Programmable functions • Precision 150mV sense voltage • Temp stable sense voltage • Ground referenced outputs | All except PAD135 & PAD183 |
|  PAD130 | Dual Boost Power Supply | ±8 - ±50 16 - 100 | ±Vs±9V | <ul style="list-style-type: none"> • Converts PAD128 to RRIO amp • Makes other amp models rail to rail at inputs | PAD128 |
|  PAD131 | Fan Controller | 12-15 | 5-15V varies w/temp | <ul style="list-style-type: none"> • Increases fan life • Reduces audible fan noise | All amplifier models with "Temp" output |
|  PAD132 | Dual Boost Power Supply | ±8 - ±150 16 - 300 | ±Vs±9V | <ul style="list-style-type: none"> • Converts PAD129 to RRIO amp • Makes other amp models rail to rail at inputs | PAD129 |

Notes:

*Amplifiers and accessory modules are purchased separately. For [contacts](#) in your area please consult website.

¹ADVANCE INFORMATION: Product is in development. The specifications shown are the design goals and subject to change.

²PRELIMINARY INFORMATION: Product is entering the production phase. The specifications shown are current but subject to change.

I_C: Continuous output current; I_{PK}: Peak output current; P_{OUT}: Power output capability; P_{DISS}: Power dissipation capability

P_{BW}: Power bandwidth; SR: Slew rate