

MAX20086–MAX20089

Dual/Quad Camera Power Protectors

General Description

The MAX20086–MAX20089 dual/quad camera power protector ICs deliver up to 600mA load current to each of their four output channels. Each output is individually protected from short-to-battery, short-to-ground, and overcurrent conditions. The ICs operate from a 3V to 5.5V supply and with a 3V to 15V camera supply. The input-to-output voltage drop is only 110mV (typ) at 300mA.

The ICs provide an enable input and I²C interface to read the diagnostic status of the device. An on-board ADC enables reading of the current through each switch. The ASIL B- and ASIL D-compliant versions include support for reading an additional seven diagnostic measurements through the ADC, ensuring high-fault coverage.

The MAX20086–MAX20089 include overtemperature shutdown and overcurrent limiting on each output channel separately. All devices are designed to operate from -40°C to +125°C ambient temperature.

Applications

- Power-over-Coax for Radar and Camera Modules

Benefits and Features

- Small Solution
 - Up to Four 600mA Protection Switches
 - 3V to 15V Input Supply
 - 3V to 5.5V Device Supply
 - 26V Short-to-Battery Isolation
 - Adjustable Current Limit (100mA to 600mA)
 - Selectable I²C Addresses
 - Small (4mm x 4mm) 20-Pin SWTQFN Package
- Precision
 - ±8% Current-Limit Accuracy
 - 0.5ms Soft-Start
 - 0.25ms Soft-Shutdown
 - 0.3µA Shutdown Current
 - 110mV Drop at 300mA
- Designed for Safety Applications
 - ASIL B/D Compliant
 - Short to V_{BAT}/GND Diagnostics
 - Differential Output Over/Undervoltage Diagnostics
 - Input Over/Undervoltage Diagnostics
 - Individual 8-Bit Current, Output Voltage, and Supply Readings Over I²C
 - Autoretry on Fault
- AEC-Q100, -40°C to +125°C

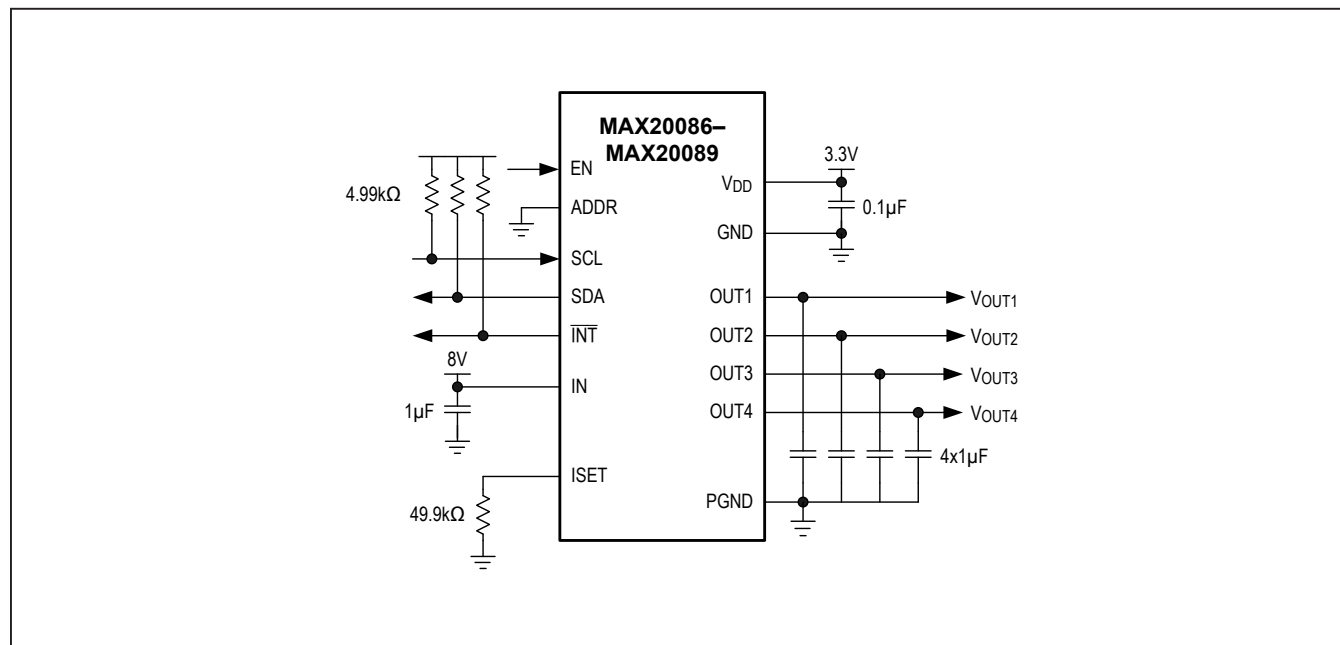
[Ordering Information](#) appears at the end of data sheet.

ABRIDGED DATA SHEET

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Typical Application Circuit



Ordering Information

PART	TEMP RANGE	PIN-PACKAGE	OUTPUTS	OPTIONS	I ² C (ADDR = 0)
MAX20086ATPA/VY+	-40°C to +125°C	20 SWTQFN-EP*	4	—	0 X 28
MAX20087ATPA/VY+	-40°C to +125°C	20 SWTQFN-EP*	4	ASIL	0 X 28
MAX20087ATPB/VY+	-40°C to +125°C	20 SWTQFN-EP*	4	ASIL	0 X 2A
MAX20087ATPC/VY+	-40°C to +125°C	20 SWTQFN-EP*	4	ASIL	0 X 2C
MAX20088ATPA/VY+	-40°C to +125°C	20 SWTQFN-EP*	2	—	0 X 28
MAX20089ATPA/VY+	-40°C to +125°C	20 SWTQFN-EP*	2	ASIL	0 X 28
MAX20089ATPB/VY+	-40°C to +125°C	20 SWTQFN-EP*	2	ASIL	0 X 2A

Note: For variants with different options, contact factory.

/V Denotes an automotive-qualified part.

+Denotes a lead(Pb)-free/RoHS-compliant package.

SW = Side-wettable TQFN package.

*EP = Exposed pad.

Chip Information

PROCESS: BiCMOS