

## ANALOG PRODUCTS

### MC33487 FACT SHEET



#### APPLICATIONS

- Automotive Systems
- Aircraft Systems
- Industrial Systems
- Applications Involving Switched Supply (High-Side) Control of Ground-Referenced Incandescent Loads

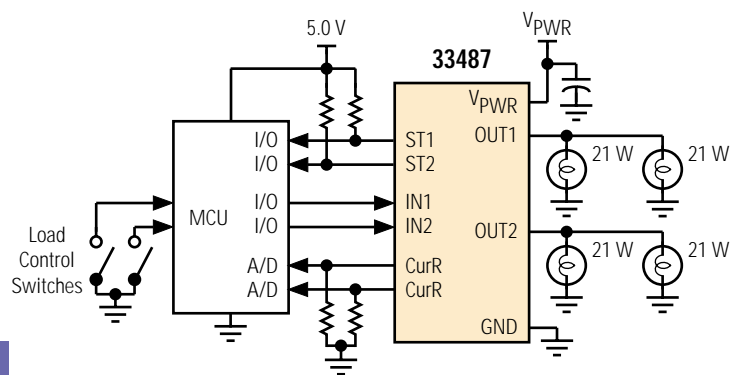
#### 33487 DUAL HIGH-SIDE SWITCH (17 mΩ R<sub>DS(on)</sub>)

The 33487 is a two-channel switch designed to replace mechanical switches and relays used in controlling ground-referenced incandescent loads. Each independent channel has dedicated parallel input control, fault status reporting, and output load current feedback.

The output load current feedback feature makes close monitoring of load currents and closed-loop control of loads possible.

Protection features include 30 A output current limiting, short-circuit protection, undervoltage shutdown, and overtemperature shutdown with hysteretic recovery. The 33487 also features output-ON open load detection.

Simplified Application Diagram



#### CUSTOMER BENEFITS

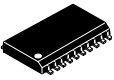
- Optimized independent two-channel high-side switching of incandescent loads with fault status reporting
- Output load current feedback making maximum load current and closed-loop control of loads possible
- Simple parallel input control interfacing to industry-standard 5.0 V MCUs or can be used in "stand-alone" applications
- Surface-mounted device requiring minimal PC board space and few components, enhancing application reliability and lower costs

Performance	Typical Values
Outputs	2
R <sub>DS(on)</sub> @ 25°C	17 mΩ
Operating Voltage	8.0 – 35 V
Peak Current (Limited)	30 A each output
Control	Parallel
ESD	± 2000 V
Operating Temp	-40°C ≤ T <sub>A</sub> ≤ 125°C
Junction Operating Temp	-40°C ≤ T <sub>J</sub> ≤ 150°C

## FEATURES

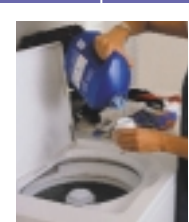
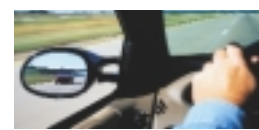
- Two-channel high-side switch with independent parallel control
- Independent channel fault status reporting
- Independent output load current feedback (1000:1 ratio)
- Output current limiting with short-circuit protection
- Undervoltage shutdown in addition to overtemperature shut-down with hysteretic recovery
- Output-ON open load detection
- Less than 1.0  $\mu$ A standby current
- Additional devices available for comparison in Analog Selector Guide SG1002/D

Protection	Detect	Limiting	Shut Down	Auto Retry	Status Reporting
Under Voltage	•		•	•	
Over Current/SC	•	•			
Over Temperature	•		•	•	•
Short-to-GND	•	•			
Output-ON Open Load	•				•

Ordering Information	Package	Ship Method	Motorola Part Number
	20 SOICW	Rail T/R	**33487DW **33487DWR2
Data Sheet Order Number			MC33487/D
Contact Sales for Evaluation Kit Availability			
**Prefix Index: PC = Eng Samples; XC = In Qual; MC = Production			

## QUESTIONS

- Do you need high-side switch to independently control two ground-referenced loads?
- Do you need to monitor load current or require closed-loop control of load currents?
- Do you need a switch with Output-ON open load detection as well as output current limit and other protection features?
- Do you need a switch capable of incandescent in-rush currents in excess of 25 A?
- Do you need a very low quiescent current switch?



### How to reach us:

**USA/EUROPE/Locations Not Listed:** Motorola Literature Distribution;  
P.O. Box 5405, Denver, Colorado 80217  
1-303-675-2140 or 1-800-441-2447

**JAPAN:** Motorola Japan Ltd.; SPS, Technical Information Center,  
3-20-1, Minami-Azabu, Minato-ku, Tokyo 106-8573 Japan  
81-3-3440-3569

**ASIA/PACIFIC:** Motorola Semiconductors H.K. Ltd.; Silicon Harbour Centre,  
2 Dai King Street, Tai Po Industrial Estate, Tai Po, N.T., Hong Kong  
852-26668334

**Technical Information Center:** 1-800-521-6274

**HOME PAGE:** <http://www.motorola.com/semiconductors>



MOTOROLA and the Stylized M Logo are registered in the U.S. Patent & Trademark Office. All other product or service names are the property of their respective owners.  
© Motorola, Inc. 2002

MC33487FS/D  
Rev. 0