

## ANALOG PRODUCTS

### MC33289 FACT SHEET



### 33289 DUAL HIGH-SIDE SWITCH FOR INDUCTIVE LOADS (30 mΩ R<sub>DS(ON)</sub>)

The 33289 is a dual high-side switch designed to drive typical inductive loads found in automotive and industrial applications. This multi-chip device consists of two 30 mΩ R<sub>DS(ON)</sub> MOSFETs in a surface mount power package. It easily interfaces to a microcontroller for control and diagnostic purposes.

Each output has independent diagnostic and protection against over-currents, over-voltage, under-voltage and incorporates an over-temperature shutdown. An Open Load Detect Enable pin (OLDE) allows the device to have very low current drain while in the logic LOW state, disabling the open load current sources, thus providing very low quiescent current in standby mode.

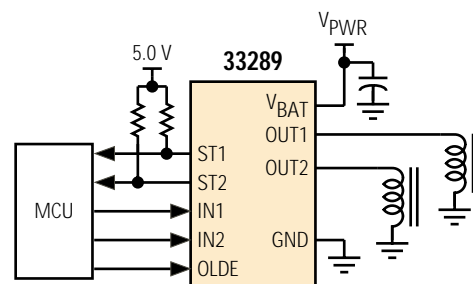
#### APPLICATIONS

- Aircraft Systems
- Automotive Systems
- Robotic Systems
- Farm Equipment
- Industrial Actuator Controls
- Fractional Horsepower DC-Motor Controls
- Marine Applications
- Incandescent Lamp Control
- Applications where High-Side Switch Control with Diagnostics is Necessary

#### CUSTOMER BENEFITS

- Simple system with minimal component count
- Simple system design with direct interfacing to a microprocessor
- Easily used in stand-alone manual circuit modes (non-microprocessor applications)
- Simplified high-side switching of inductive loads due to internally clamped outputs
- Applicable for high-side switching of capacitive, incandescent, or inductive loads
- Increased switching efficiency with very low power dissipation (low R<sub>DS(ON)</sub>)
- Reduced PC board space resulting in enhanced reliability and lower costs
- Internal safety features with output status reporting

Simplified Application Diagram

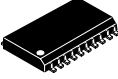


Performance	Typical Values
Outputs	2
R <sub>DS(ON)</sub> @ 25°C	0.030 Ω
Operating Voltage	6.0 – 27 V
Peak Current	5.0 A each output
ESD	± 2000 V
Operating Temp	-40°C ≤ T <sub>A</sub> ≤ 125°C
Junction Operating Temp	-40°C ≤ T <sub>J</sub> ≤ 150°C

## FEATURES

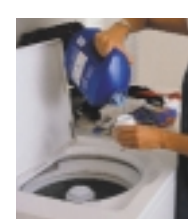
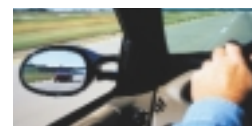
- 30 mΩ  $R_{DS(on)}$  outputs
- Maximum breakdown voltage greater than 40 V
- Over-temperature protection with hysteresis
- Open load detection in off-state
- Independent diagnostic output
- Standby current less than 5.0 mA at  $V_{PWR}$  below 14 V
- Drive 40 mΩ loads
- Additional devices available for comparison in Analog Selector Guide SG1002/D

Protection	Detect	Shut Down	Auto Retry	Status Reporting
Over Voltage	•	•		
Under Voltage	•	•		
Over Current/SC	•	•		•
Over Temperature	•	•	•	•
Open Load	•			•
Short to GND	•	•		•
Short to $V_{PWR}$	•			•

Ordering Information	Package	Ship Method	Motorola Part Number
	20 SOICW	Rail T/R	**33289DW **33289DWR2
Data Sheet Order Number			MC33289/D
Contact Sales for Evaluation Kit Availability			
**Prefix Index: PC = Eng Samples; XC = In Qual; MC = Production			

## QUESTIONS

- Do you need to reduce system costs of high-side switching two loads using a micro-controller?
- Do you have only a little PC board space available for load control?
- Do you have to design a dual high-efficiency switch to control inductive loads over a wide temperature range?
- Are you looking for an easy-to-design high-side switch, capable of switching two loads?
- Do you require a "smart" switch having internal protection features as well as fault reporting?



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