

ANALOG PRODUCTS

MC33286 FACT SHEET



POWER ICs
HIGH-SIDE SWITCH

33286 DUAL HIGH-SIDE SWITCH (25 mΩ R_{DS(on)})

The 33286 is a dual high-side power switch for low-voltage and industrial lighting applications. Compared with mechanical relays, this device offers higher reliability as well as protection and diagnostic features.

This multi-chip device consists of two independent 25 mΩ R_{DS(on)} switches in a surface mount package. It can be directly interfaced to a microcontroller for control and diagnostics.

The device is fully protected against over-currents, and short-circuits and incorporates an over-temperature shutdown. It can be powered by continuous or switched battery and offers a very low quiescent current in the stand-by mode.

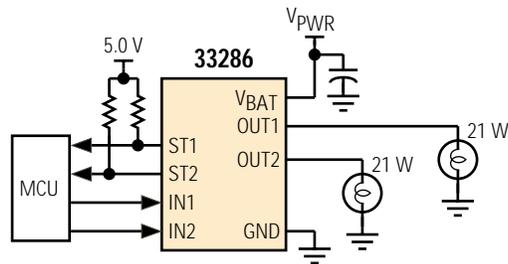
APPLICATIONS

- 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)
- Applicable for high-side switching of capacitive, incandescent loads
- Increased switching efficiency with very low power dissipation (low R_{DS(on)})
- 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 _{DS(on)} @ 25°C	2 x 0.025 Ω
Operating Voltage	8.0 – 30 V
Peak Current	30 A each output
Control	Parallel
ESD	± 2000 V
Operating Temp	-40°C ≤ T _A ≤ 125°C
Junction Operating Temp	-40°C ≤ T _J ≤ 150°C

FEATURES

- 25 mΩ $R_{DS(on)}$ outputs
- Standby current less than 5.0 μA at V_{PWR} below 14 V
- Over-temperature protection with hysteresis
- Reverse battery protected
- Open load detection in on-state
- Diagnostic output
- Current limitation at 30 A
- 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	•		•	•	•
Open Load	•			•	•
Short to GND	•	•		•	

Ordering Information	Package	Ship Method	Motorola Part Number
	20 SOICW	Rail T/R	**33286DW **33286DWR2
Data Sheet Order Number		MC33286/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 microcontroller?
- 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 capacitive, incandescent 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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