

Product Summary

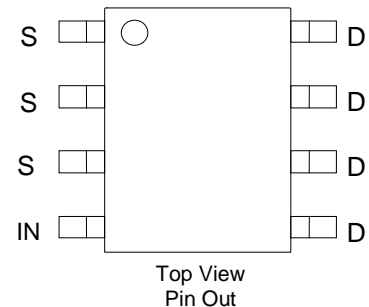
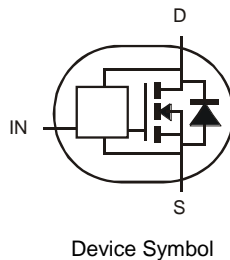
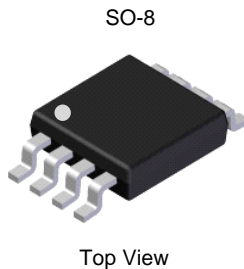
- Continuous Drain Source Voltage: 60V
- On-State Resistance: 200mΩ
- Nominal Load Current ($V_{IN} = 5V$): 2.0A
- Clamping Energy: 120mJ

Description

The ZXMS6005N8 is a self-protected low side IntelliFET™ MOSFET with logic level input. It integrates over-temperature, overcurrent, overvoltage (active clamp) and ESD protected logic level functionality. The ZXMS6005N8 is ideal as a general purpose switch driven from 3.3V or 5V microcontrollers in harsh environments where standard MOSFETs are not rugged enough.

Applications

- Especially Suited for Loads with a High In-Rush Current such as Lamps and Motors
- All Types of Resistive, Inductive and Capacitive Loads in Switching Applications
- μ C Compatible Power Switch for 12V and 24V DC Applications
- Replaces Electromechanical Relays and Discrete Circuits
- Linear Mode Capability– the current-limiting protection circuitry is designed to deactivate at low V_{DS} to minimize on-state power dissipation. The maximum DC operating current is therefore determined by the thermal capability of the package/board combination, rather than by the protection circuitry. This does not compromise the product's ability to self-protect at low V_{DS} .



Features and Benefits

- Low Input Current
- Logic Level Input (3.3V and 5V)
- Short Circuit Protection with Auto Restart
- Overvoltage Protection (Active Clamp)
- Thermal Shutdown with Auto Restart
- Overcurrent Protection
- Input Protection (ESD)
- High Continuous Current Rating
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **An Automotive-Compliant Part is Available Under Separate Datasheet ([ZXMS6005N8Q](#))**

Mechanical Data

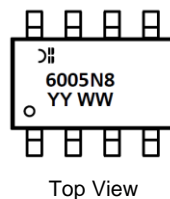
- Case: SO-8
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish (E3)
- Weight: 80.2mg (Approximate)

Ordering Information (Note 4)

Part Number	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
ZXMS6005N8-13	6005N8	13	12	2,500 Units

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



># = Manufacturer's Marking
 6005N8 = Product Type Marking Code
 YYWW = Date Code Marking
 YY: Year
 WW: Week: 01~52;
 52 represents 52 and 53 week