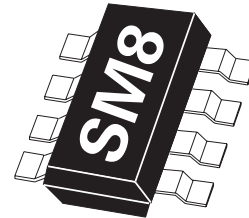


ZMC05

CURRENT SENSOR

DESCRIPTION

The ZMC05 allows the measurement direct or alternating current up to 5A. It consists of a magnetic sensor chip (employing the magneto resistive effect of thin Permalloy), which measures the magnetic field generated by an internal-carrying conductor.



FEATURES

- Package : SM-8
- Supply voltage 12 V
- No Auxiliary Field Required
- Measurable current I_M up to 5A
- Available on 12mm tape

APPLICATION

- Contactless and free from losses current measurement
- Automotive
- Battery Power Equipment
- Power Supplies
- Electric Motor Control
- Power Management

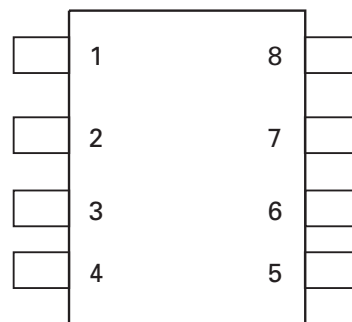
ORDERING INFORMATION

| DEVICE | REEL SIZE | TAPE WIDTH | QUANTITY PER REEL |
|---------|-----------|------------|-------------------|
| ZMC05TA | 7" | 12mm | 1000 |
| ZMC05TC | 13" | 12mm | 4000 |

DEVICE MARKING

ZMC05

PINOUT DIAGRAM



PIN CONNECTION

- | | |
|--------------------|----------------------|
| 1) Do not connect | 5) -V _O |
| 2) +V _O | 6) Current input |
| 3) Current output | 7) +V _B |
| 4) -V _B | 8) Do not connection |

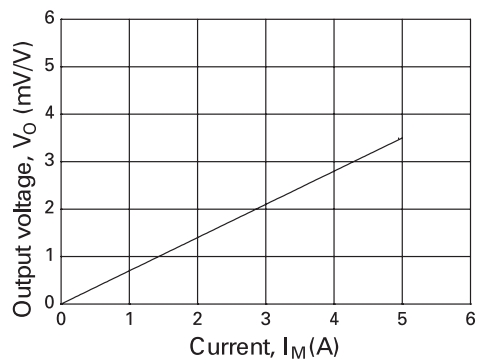
ZMC05

ABSOLUTE MAXIMUM RATINGS

| PARAMETER | SYMBOL | LIMIT | UNIT |
|--|-----------|-------------|------|
| Supply Voltage | V_B | 12 | V |
| Measurable current at DC: absolute value at AC: peak value | I_M | 5 | A |
| Operating temperature range | T_{amb} | -25 to +125 | °C |
| Storage temperature range | T_{stg} | -25 to +125 | °C |

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated)

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITIONS |
|--|-----------|------|------|---------|-----------|---|
| Input - Output - Insulation (pins 3,6 shorted together & pins 2,4,5,7 shorted together) | I_{I-O} | | | 100 | nA | test voltage:200V DC test time: 50ms |
| Bridge resistance | R_{br} | 1.2 | 1.7 | 2.2 | $k\Omega$ | |
| Offset voltage | V_{Off} | | | ± 2 | mV/V | |
| Open circuit sensitivity | S | 0.5 | 0.7 | 0.9 | (mV/V)/A | |
| Resistance of the conductor | R | | 0.7 | | $m\Omega$ | |
| Operating frequency | f_{max} | | | 100 | kHz | |



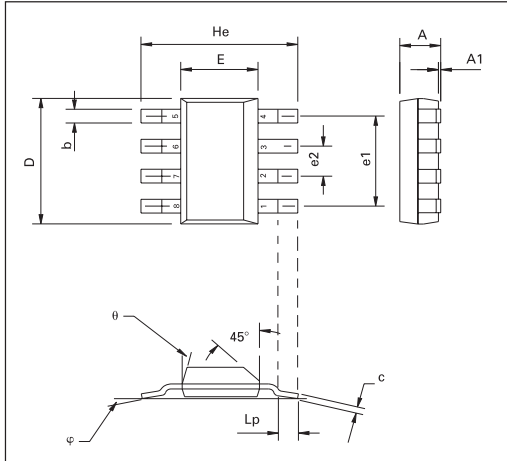
Output voltage, V_O
(as a function of supply voltage)



ISSUE 2 - MAY 2003

ZMC05

PACKAGE OUTLINE



PACKAGE DIMENSIONS

| DIM | MILLIMETRES | |
|-----|-------------|------|
| | MIN | MAX |
| A | — | 1.7 |
| A1 | 0.02 | 0.1 |
| b | 0.7 TYP | |
| c | 0.24 | 0.32 |
| D | 6.3 | 6.7 |
| E | 3.3 | 3.7 |
| e1 | 4.59 TYP | |
| e2 | 1.53 TYP | |
| He | 6.7 | 7.3 |
| Lp | 0.9 | — |
| θ | — | 15° |
| φ | 10° TYP | |

© Zetex plc 2001

Zetex plc
Fields New Road
Chadderton
Oldham, OL9 8NP
United Kingdom
Telephone (44) 161 622 4422
Fax: (44) 161 622 4420

Zetex GmbH
Streitfeldstraße 19
D-81673 München
Germany
Telefon: (49) 89 45 49 49 0
Fax: (49) 89 45 49 49 49

Zetex Inc
700 Veterans Memorial Hwy
Hauppauge, NY11788
USA
Telephone: (631) 360 2222
Fax: (631) 360 8222

Zetex (Asia) Ltd
3701-04 Metroplaza, Tower 1
Hing Fong Road
Kwai Fong
Hong Kong
Telephone: (852) 26100 611
Fax: (852) 24250 494

These offices are supported by agents and distributors in major countries world-wide.

This publication is issued to provide outline information only which (unless agreed by the Company in writing) may not be used, applied or reproduced for any purpose or form part of any order or contract or be regarded as a representation relating to the products or services concerned. The Company reserves the right to alter without notice the specification, design, price or conditions of supply of any product or service.

For the latest product information, log on to www.zetex.com

ISSUE 2 - MAY 2003