

# ZMC05

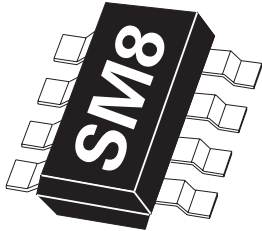
---

## 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

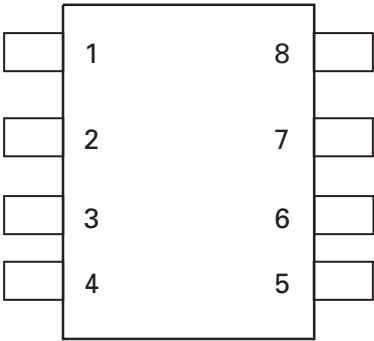
### ORDERING INFORMATION

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 <sub>O</sub>   |
| 2) +V <sub>O</sub> | 6) Current input     |
| 3) Current output  | 7) +V <sub>B</sub>   |
| 4) -V <sub>B</sub> | 8) Do not connection |

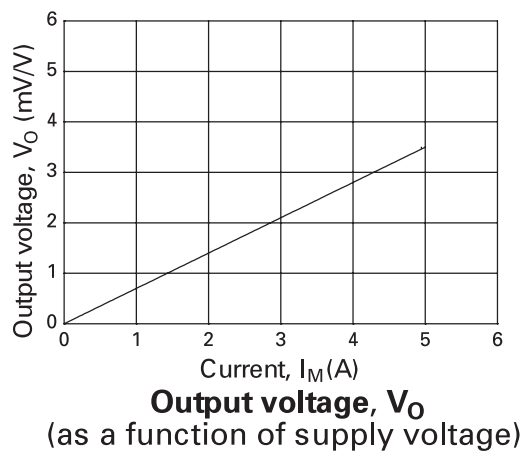
# ZMC05

## 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

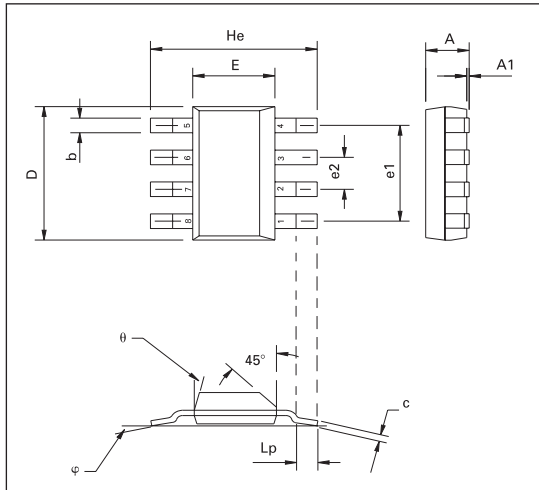
## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Input - Output - Insulation (between pin 3 and pin 1)	$I_{I-O}$			100	nA	test voltage: 200V DC test time: 50ms
Bridge resistance	$R_{br}$	1.2	1.7	2.2	$k\Omega$	
Offset voltage	$V_{Off}$			$\pm 2$	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	
Temperature coefficient of the open circuit sensitivity	$T_C$			-0.3	%/K	



# 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](http://www.zetex.com)

ISSUE 1 - FEBRUARY 2002