

# TC1016 80mA SC-70 Low Dropout Regulator

## Product Information

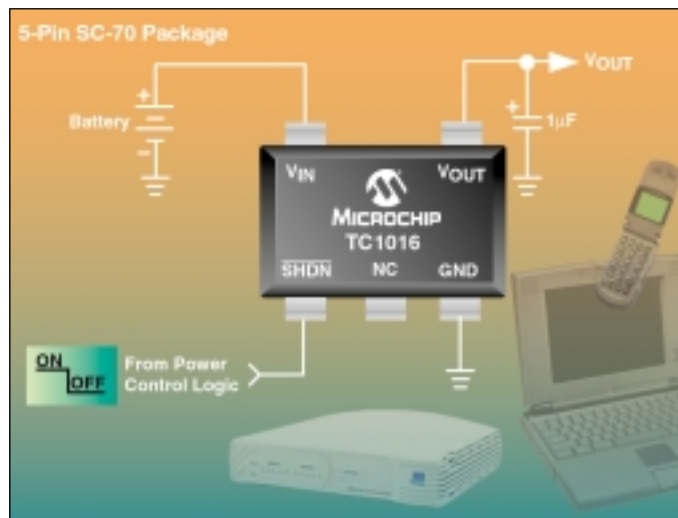


The **TC1016** is an 80mA low dropout linear regulator (LDO) in a SC-70 package, occupying half the footprint of a SOT-23 package.

The TC1016 offers an output current of 80mA with a low typical operating current of 60 $\mu$ A independent of load. In addition, dropout voltage is typically 180mV at full load, allowing significantly more usable life out of a given battery. The shutdown mode reduces the LDO's total current to less than 0.5 $\mu$ A. The device also features a very accurate output voltage of typical  $\pm$ 0.5% and demonstrates superior dynamic behavior.

Offered in a space saving SC-70 package, the TC1016 is fully specified from 2.7V to 6.0V over the -40 $^{\circ}$ C to +125 $^{\circ}$ C temperature range. The output is stable with small, low-ESR ceramic capacitors.

The TC1016 offers extremely low operating current, low dropout voltage, stability with ceramic capacitors, and small footprint. These features make this device ideal for battery applications, like cellular phones, pagers, personal digital assistants (PDAs), laptops, MP3 players, bar code scanners, and hand-held meters. Other applications may include industrial control, optical modules, modems, flash module cards, PC cards, and portable equipment.



### Features:

- Space saving 5-pin SC-70 package
- 90 $\mu$ A maximum supply current
- High  $\pm$ 0.5% typical output voltage accuracy
- Low dropout voltage: 180mV at full load
- Stable with low-ESR ceramic output capacitors
- Large variety of output voltage options
- Excellent dynamic performance
- Shutdown mode for further power savings (0.5 $\mu$ A maximum)

### Related Application Notes:

- AN23 LDO Thermal Considerations
- AN47 Pin Compatible CMOS Upgrades to Bipolar LDOs
- AN66 DC Performance Comparisons of CMOS vs Bipolar LDOs when Operating in "Dropout" ( $V_{IN}$  = Nominal  $V_{OUT}$ ) Mode

# TC1016

## SC-70 Low Dropout Regulator *Continued*

### Additional Information:

- Microchip's web site: [www.microchip.com](http://www.microchip.com)
- Microchip's *Technical Library CD-ROM*, Order No. [DS00161](#)
- *Analog Interface Handbook*, Order No. [DS00207](#)
- Product Line Card, Order No. [DS00148](#)
- *Analog Design Pack CD-ROM*, Order No. [DS51205](#)

### TC1016, SC-70 Low Dropout Regulator

Product	Output Current	Vcc Range	# of Pin/ Package	SHDN	Max. I <sub>Q</sub>	Max. I <sub>SHDN</sub>	Typical V <sub>OUT</sub> Accuracy	V <sub>DROP</sub> at I <sub>OUTMAX</sub>
TC1016	80mA	2.7V to 6.0V	5LT	Yes	90µA	0.5µA	±0.5%	180mV

Package Key: LT = SC-70

#### Americas

Atlanta (770) 640-0034  
 Austin – Analog (512) 345-2030  
 Boston (978) 692-3848  
 Boston – Analog (978) 371-6400  
 Chicago (630) 285-0071  
 Dallas (972) 818-7423  
 Dayton (937) 291-1654  
 Detroit (248) 538-2250  
 Los Angeles (949) 263-1888  
 Mountain View (650) 968-9241  
 New York (631) 273-5305  
 Rocky Mountain (480) 792-7966  
 San Jose (408) 436-7950  
 Toronto (905) 673-0699

#### Asia /Pacific

Australia 61-2-9868-6733  
 China – Beijing 86-10-8528-2100  
 China – Shanghai 86-21-6275-5700  
 Hong Kong 852-2-401-1200  
 India 91-80-229-0061  
 Japan 81-45-471- 6166  
 Korea 82-2-554-7200  
 Singapore 65-334-8870  
 Taiwan 886-2-2717-7175

#### Europe

Denmark 45-4420-9895  
 France 33-1-69-53-63-20  
 Germany 49-89-627-144-0  
 Germany-Analog 49-89-895-650-0  
 Italy 39-039-65791-1  
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Microchip Technology Inc. • 2355 W. Chandler Blvd. • Chandler, AZ 85224-6199 • (480) 792-7200 • Fax (480) 792-9210

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