93AA56A/B/C, 93LC56A/B/C, 93C56A/B/C

2-Kbit Microwire Compatible Serial EEPROM

Device Selection Table

Part Number	Vcc Range	ORG Pin	Word Size	Temperature Ranges	Packages
93AA56A	1.8V-5.5V	No	8-bit	I	MC, MS, P, SN, OT, MN, ST
93AA56B	1.8V-5-5V	No	16-bit	I	MC, MS, P, SN, OT, MN, ST
93LC56A	2.5V-5.5V	No	8-bit	I, E	MC, MS, P, SN, OT, MN, ST
93LC56B	2.5V-5.5V	No	16-bit	I, E	MC, MS, P, SN, OT, MN, ST
93C56A	4.5V-5.5V	No	8-bit	I, E	MC, MS, P, SN, OT, MN, ST
93C56B	4.5V-5.5V	No	16-bit	I, E	MC, MS, P, SN, OT, MN, ST
93AA56C	1.8V-5.5V	Yes	8-bit or 16-bit	I	MC, MS, P, SN, MN, ST
93LC56C	2.5V-5.5V	Yes	8-bit or 16-bit	I, E	MC, MS, P, SN, MN, ST
93C56C	4.5V-5.5V	Yes	8-bit or 16-bit	I, E	MC, MS, P, SN, MN, ST

Features

- Low-Power CMOS Technology
- ORG Pin to Select Word Size for '56C' Version
- 256 x 8-bit Organization 'A' Version (no ORG)
- 128 x 16-bit Organization 'B' Version (no ORG)
- Self-Timed Erase/Write Cycles (including Auto-Erase)
- Automatic Erase All (ERAL) before Write All (WRAL)
- Power-On/Off Data Protection Circuitry
- Industry Standard Three-Wire Serial I/O
- Device Status Signal (Ready/$\overline{\text{Busy}}$)
- Sequential Read Function
- High Reliability:
  - Endurance: 1,000,000 erase/write cycles
  - Data retention: > 200 years
  - ESD protection: > 4000V
- RoHS Compliant:
- Automotive AEC-Q100 Qualified
- Temperature Ranges Supported:
  - Industrial (I) -40°C to +85°C
  - Extended (E) -40°C to +125°C

Packages

- 8-Lead PDIP, 8-Lead SOIC, 8-Lead TSSOP, 8-Lead MSOP, 6-Lead SOT-23, 8-Lead DFN, 8-Lead TDFN

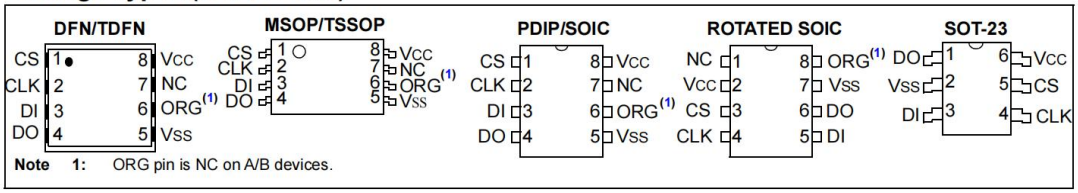
Pin Function Table

Name	Function
CS	Chip Select
CLK	Serial Data Clock
DI	Serial Data Input
DO	Serial Data Output
Vss	Ground
NC	No internal connection
ORG	Memory Configuration
Vcc	Power Supply

Description

The Microchip Technology Inc. 93XX56A/B/C devices are 2-Kbit low-voltage serial Electrically Erasable PROMs (EEPROM). Word-selectable devices such as the 93AA56C, 93LC56C or 93C56C are dependent upon external logic levels driving the ORG pin to set word size. For dedicated 8-bit communication, the 93XX56A devices are available, while the 93XX56B devices provide dedicated 16-bit communication. Advanced CMOS technology makes these devices ideal for low-power, nonvolatile memory applications.

Package Types (not to scale)



Note 1: ORG pin is NC on A/B devices.

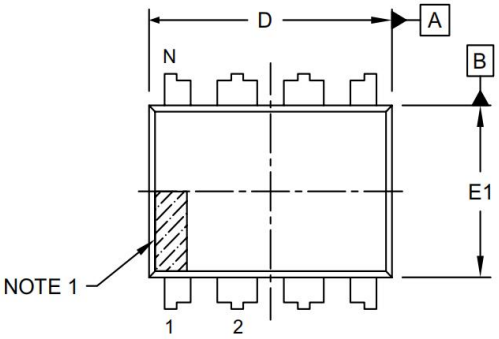
Part Number	1st Line Marking Codes									
	TSSOP	MSOP	SOIC	Rotated SOIC	SOT-23		DFN		TDFN	
					I Temp.	E Temp.	I Temp.	E Temp.	I Temp.	E Temp.
93AA56A	A56A	3A56AT	93AA56AT	93A56AXT	3BNN	—	361	—	E61	—
93AA56B	A56B	3A56BT	93AA56BT	93A56BXT	3LNN	—	371	—	E71	—
93AA56C	A56C	3A56CT	93AA56CT	93A56CXT	—	—	381	—	E81	—
93LC56A	L56A	3L56AT	93LC56AT	93L56AXT	3ENN	3FNN	364	—	E64	E65
93LC56B	L56B	3L56BT	93LC56BT	93L56BXT	3PNN	3RNN	374	—	E74	E75
93LC56C	L56C	3L56CT	93LC56CT	93L56CXT	—	—	384	—	E84	E85
93C56A	C56A	3C56AT	—	—	3HNN	3JNN	367	—	E67	E68
93C56B	C56B	3C56BT	—	—	3TNN	3UNN	377	—	E77	E78
93C56C	C56C	3C56CT	—	—	—	—	387	—	E87	E88

Legend:	XX...X	Part number or part number code
	T	Temperature (I, E)
	Y	Year code (last digit of calendar year)
	YY	Year code (last 2 digits of calendar year)
	WW	Week code (week of January 1 is week '01')
	NNN	Alphanumeric traceability code (2 characters for small packages)
	(e3)	RoHS Compliant JEDEC® designator for Matte Tin (Sn)

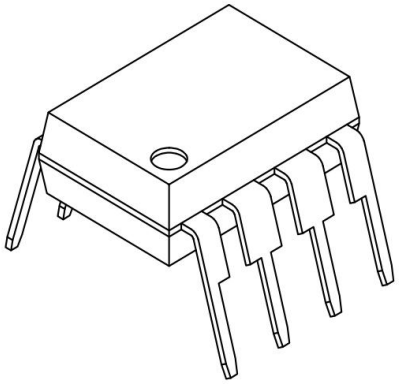
Note: For very small packages with no room for the RoHS Compliant JEDEC® designator (e3), the marking will only appear on the outer carton or reel label.

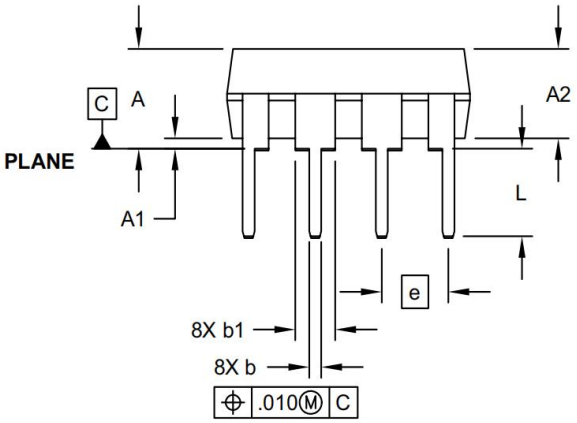
Note: In the event the full Microchip part number cannot be marked on one line, it will be carried over to the next line, thus limiting the number of available characters for customer-specific information.

Units		INCHES		
Dimension Limits		MIN	NOM	MAX
Number of Pins	N		8	
Pitch	e		.100 BSC	
Top to Seating Plane	A	-	-	.210
Molded Package Thickness	A2	.115	.130	.195
Base to Seating Plane	A1	.015	-	-
Shoulder to Shoulder Width	E	.290	.310	.325
Molded Package Width	E1	.240	.250	.280
Overall Length	D	.348	.365	.400
Tip to Seating Plane	L	.115	.130	.150
Lead Thickness	c	.008	.010	.015
Upper Lead Width	b1	.040	.060	.070
Lower Lead Width	b	.014	.018	.022
Overall Row Spacing §	eB	-	-	.430

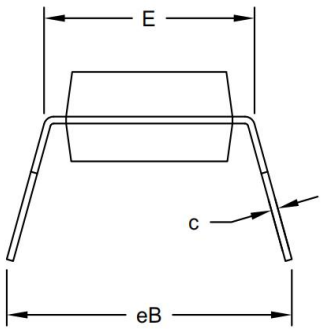


TOP VIEW





SIDE VIEW



END VIEW