

MC34064, MC33064, NCV33064

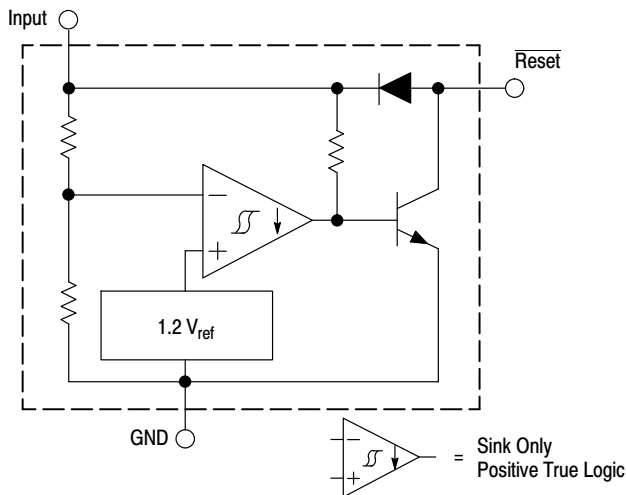
Undervoltage Sensing Circuit

The MC34064 is an undervoltage sensing circuit specifically designed for use as a reset controller in microprocessor-based systems. It offers the designer an economical solution for low voltage detection with a single external resistor. The MC34064 features a trimmed-in-package bandgap reference, and a comparator with precise thresholds and built-in hysteresis to prevent erratic reset operation. The open collector reset output is capable of sinking in excess of 10 mA, and operation is guaranteed down to 1.0 V input with low standby current. The MC devices are packaged in 3-pin TO-92, micro size TSOP-5, 8-pin SOIC-8 and Micro8™ surface mount packages. The NCV device is packaged in SOIC-8 and TO-92.

Applications include direct monitoring of the 5.0 V MPU/logic power supply used in appliance, automotive, consumer and industrial equipment.

Features

- Trimmed-In-Package Temperature Compensated Reference
- Comparator Threshold of 4.6 V at 25°C
- Precise Comparator Thresholds Guaranteed Over Temperature
- Comparator Hysteresis Prevents Erratic Reset
- Reset Output Capable of Sinking in Excess of 10 mA
- Internal Clamp Diode for Discharging Delay Capacitor
- Guaranteed Reset Operation with 1.0 V Input
- Low Standby Current
- Economical TO-92, TSOP-5, SOIC-8 and Micro8 Surface Mount Packages
- NCV Prefix for Automotive and Other Applications Requiring Site and Control Changes
- Pb-Free Packages are Available



This device contains 21 active transistors.

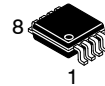
Figure 1. Representative Block Diagram



ON Semiconductor®



**SOIC-8
D SUFFIX
CASE 751**

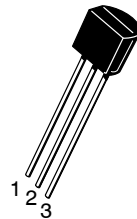


**Micro8
DM SUFFIX
CASE 846A**

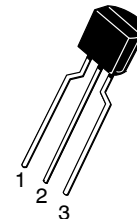


**TSOP-5
SN SUFFIX
CASE 483**

Pin 1. Ground
2. Input
3. Reset
4. NC
5. NC



**STRAIGHT LEAD
BULK PACK**

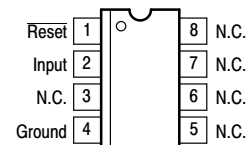


**BENT LEAD
TAPE & REEL
AMMO PACK**

**TO-92
P SUFFIX
CASE 29**

Pin 1. Reset
2. Input
3. Ground

PIN CONNECTIONS



(Top View)

ORDERING INFORMATION

See detailed ordering and shipping information in the package dimensions section on page 6 of this data sheet.

DEVICE MARKING INFORMATION

See general marking information in the device marking section on page 7 of this data sheet.

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ORDERING INFORMATION

Device	Operating Temperature Range	Package	Shipping [†]	
MC34064D-005	T _A = 0°C to +70°C	SOIC-8	98 Units / Rail	
MC34064D-5G		SOIC-8 (Pb-Free)		
MC34064D-5R2		SOIC-8	2500 Units/ Tape & Reel	
MC34064D-5R2G		SOIC-8 (Pb-Free)		
MC34064DM-5R2		Micro8	4000 Units / Tape & Reel	
MC34064DM-5R2G		Micro8 (Pb-Free)		
MC34064P-005		TO-92	2000 Units / Bag	
MC34064P-5G		TO-92 (Pb-Free)		
MC34064P-5RA		TO-92	2000 Units / Tape & Reel	
MC34064P-5RAG		TO-92 (Pb-Free)		
MC34064P-5RP		TO-92	2000 Units / Ammo Pack	
MC34064P-5RPG		TO-92 (Pb-Free)		
MC34064P-5RM		TO-92		
MC34064P-5RMG		TO-92 (Pb-Free)		
MC34064SN-5T1		TSOP-5	3000 Units / Tape & Reel	
MC34064SN-5T1G		TSOP-5 (Pb-Free)		
MC33064D-005		T _A = -40°C to +85°C	SOIC-8	98 Units / Rail
MC33064D-5G			SOIC-8 (Pb-Free)	
MC33064D-5R2	SOIC-8		2500 Units / Tape & Reel	
MC33064D-5R2G	SOIC-8 (Pb-Free)			
MC33064DM-5R2	Micro8		4000 Units / Tape & Reel	
MC33064DM-5R2G	Micro8 (Pb-Free)			
MC33064P-005	TO-92		2000 Units / Bag	
MC33064P-5G	TO-92 (Pb-Free)			
MC33064P-5RA	TO-92		2000 Units / Tape & Reel	
MC33064P-5RAG	TO-92 (Pb-Free)			
MC33064P-5RP	TO-92		2000 Units / Ammo Pack	
MC33064P-5RPG	TO-92 (Pb-Free)			
MC33064SN-5T1	TSOP-5		3000 Units / Tape & Reel	
MC33064SN-5T1G	TSOP-5 (Pb-Free)			

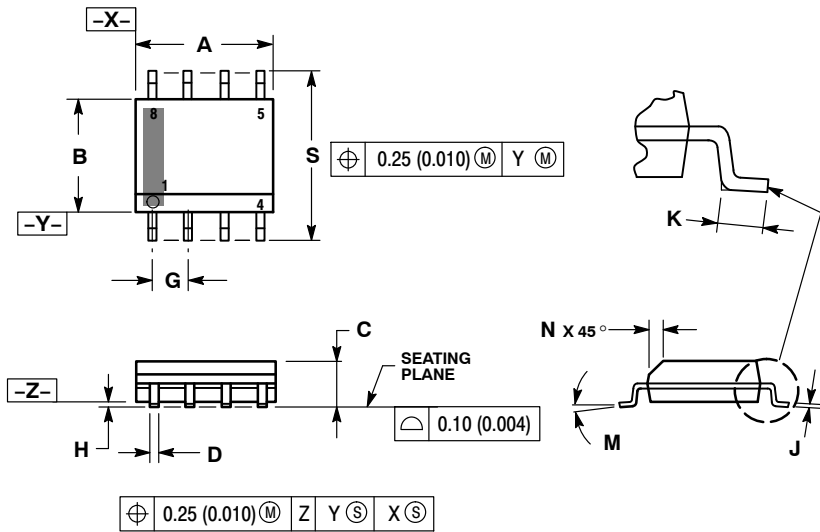
[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

*NCV33064: T_{low} = -40°C, T_{high} = +125°C. Guaranteed by design. NCV prefix is for automotive and other applications requiring site and change control.

MC34064, MC33064, NCV33064

PACKAGE DIMENSIONS

SOIC-8
D SUFFIX
CASE 751-07
ISSUE AJ

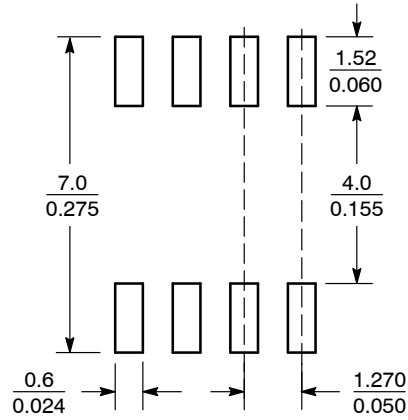


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSION A AND B DO NOT INCLUDE MOLD PROTRUSION.
4. MAXIMUM MOLD PROTRUSION 0.15 (0.006) PER SIDE.
5. DIMENSION D DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.127 (0.005) TOTAL IN EXCESS OF THE D DIMENSION AT MAXIMUM MATERIAL CONDITION.
6. 751-01 THRU 751-06 ARE OBSOLETE. NEW STANDARD IS 751-07.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.197
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.053	0.069
D	0.33	0.51	0.013	0.020
G	1.27 BSC		0.050 BSC	
H	0.10	0.25	0.004	0.010
J	0.19	0.25	0.007	0.010
K	0.40	1.27	0.016	0.050
M	0°	8°	0°	8°
N	0.25	0.50	0.010	0.020
S	5.80	6.20	0.228	0.244

SOLDERING FOOTPRINT*



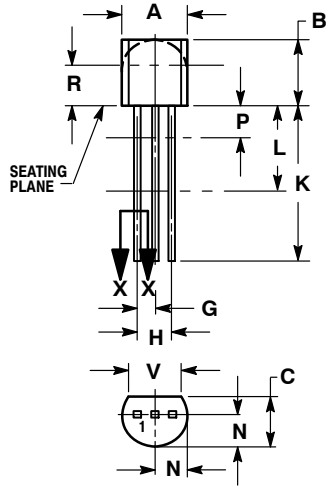
SCALE 6:1 ($\frac{\text{mm}}{\text{inches}}$)

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

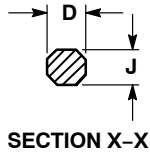
MC34064, MC33064, NCV33064

PACKAGE DIMENSIONS

TO-92 (TO-226)
P SUFFIX
CASE 29-11
ISSUE AM



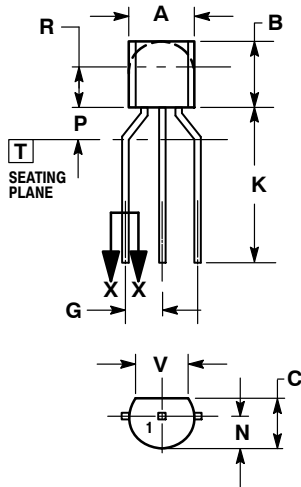
STRAIGHT LEAD
BULK PACK



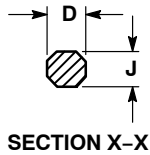
NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---



BENT LEAD
TAPE & REEL
AMMO PACK



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	MILLIMETERS	
	MIN	MAX
A	4.45	5.20
B	4.32	5.33
C	3.18	4.19
D	0.40	0.54
G	2.40	2.80
J	0.39	0.50
K	12.70	---
N	2.04	2.66
P	1.50	4.00
R	2.93	---
V	3.43	---