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## MC74VHC1GT66

## Advance Information Analog Switch

The MC74VHC1GT66 is an advanced high speed CMOS bilateral analog switch fabricated with silicon gate CMOS technology．It achieves high speed propagation delays and low ON resistances while maintaining CMOS low power dissipation．This bilateral switch controls analog and digital voltages that may vary across the full power－supply range（from $\mathrm{V}_{\mathrm{CC}}$ to GND）．

The MC74VHC1GT66 is compatible in function to a single gate of the very High Speed CMOS MC74VHCT4066．The device has been designed so that the ON resistances $\left(\mathrm{R}_{\mathrm{ON}}\right)$ are much lower and more linear over input voltage than RON of the metal－gate CMOS or High Speed CMOS analog switches．

The ON／OFF Control input is compatible with TTL－type input thresholds allowing the device to be used as a logic－level translator from 3．0V CMOS logic to 5.0 V CMOS logic or from 1.8 V CMOS logic to 3.0 V CMOS logic while operating at the high－voltage power supply．The input protection circuitry on this device allows overvoltage tolerance on the input，which provides protection when voltages of up to 7 V are applied，regardless of the supply voltage．This allows the MC74VHC1GT66 to be used to interface 5 V circuits to 3 V circuits．
－Low Power Dissipation： $\mathrm{I} C \mathrm{C}=2 \mu \mathrm{~A}(\operatorname{Max})$ at $\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C}$
－Diode Protection Provided on Inputs and Outputs
－Improved Linearity and Lower ON Resistance over Input Voltage
－Pin and Function Compatible with Other Standard Logic Families
－Latchup Performance Exceeds 300 mA
－ESD Performance： $\mathrm{HBM}>2000 \mathrm{~V} ; \mathrm{MM}>200 \mathrm{~V}, \mathrm{CDM}>1500 \mathrm{~V}$


5－Lead SOT－353 Pinout（Top View）

## LOGIC SYMBOL




ON Semiconductor
Formerly a Division of Motorola http：／／onsemi．com

SC－88A／SOT－353
DF SUFFIX
CASE 419A
MARKING DIAGRAM

Pin 1
$d=$ Date Code

| PIN ASSIGNMENT |  |
| :---: | :---: |
| 1 | IN／OUT $\mathrm{X}_{\mathrm{A}}$ |
| 2 | OUT／IN $\mathrm{Y}_{\mathrm{A}}$ |
| 3 | GND |
| 4 | ON／OFF CONTROL |
| 5 | VCC |

ORDERING INFORMATION
See detailed ordering and shipping information in the package dimensions section on page 7 of this data sheet．
FUNCTION TABLE

| On／Off Control Input | State of Analog Switch |
| :---: | :---: |
| L | Off |
| $H$ | On |

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## ABSOLUTE MAXIMUM RATINGS

| Characteristics | Symbol | Value | Unit |
| :--- | :---: | :---: | :---: |
| DC Supply Voltage | $\mathrm{V}_{\mathrm{CC}}$ | -0.5 to +7.0 | V |
| Digital Input Voltage | $\mathrm{V}_{\mathrm{IN}}$ | -0.5 to $\mathrm{V}_{\mathrm{CC}}+0.5$ | V |
| Analog Output Voltage | $\mathrm{V}_{\mathrm{IS}}$ | -0.5 to $\mathrm{V}_{\mathrm{CC}}+0.5$ | V |
| Digital Input Diode Current | $\mathrm{I}_{\mathrm{IK}}$ | -20 | mA |
| DC Supply Current, $\mathrm{V}_{\mathrm{CC}}$ and GND | $\mathrm{I}_{\mathrm{CC}}$ | +25 | mA |
| Power dissipation in still air, SC-88A $\dagger$ | $\mathrm{P}_{\mathrm{D}}$ | 200 | mW |
| Lead temperature, 1 mm from case for 10 s | $\mathrm{~T}_{\mathrm{L}}$ | 260 | ${ }^{\circ} \mathrm{C}$ |
| Storage temperature | $\mathrm{T}_{\mathrm{Stg}}$ | -65 to +150 | ${ }^{\circ} \mathrm{C}$ |

$\dagger$ Derating - SC-88A Package: $-3 \mathrm{~mW} /{ }^{\circ} \mathrm{C}$ from $65^{\circ}$ to $125^{\circ} \mathrm{C}$

## RECOMMENDED OPERATING CONDITIONS

| Characteristics | Symbol | Min | Max | Unit |
| :---: | :---: | :---: | :---: | :---: |
| DC Supply Voltage | $\mathrm{V}_{\mathrm{CC}}$ | 4.5 | 5.5 | V |
| Digital Input Voltage | $\mathrm{V}_{\text {IN }}$ | GND | $\mathrm{V}_{\mathrm{CC}}$ | V |
| Analog Input Voltage | VIS | GND | $\mathrm{V}_{\mathrm{CC}}$ | V |
| Static or Dynamic Voltage Across Switch | VIO* |  | 1.2 | V |
| Operating Temperature Range | $\mathrm{T}_{\text {A }}$ | -55 | +85 | ${ }^{\circ} \mathrm{C}$ |
| Input Rise and Fall Time ON/OFF Control Input $\begin{aligned} & \mathrm{V}_{\mathrm{CC}}=3.3 \mathrm{~V} \pm 0.3 \mathrm{~V} \\ & \mathrm{~V}_{\mathrm{CC}}=5.0 \mathrm{~V} \pm 0.5 \mathrm{~V} \end{aligned}$ | $\mathrm{tr}_{\mathrm{r}}, \mathrm{tf}_{f}$ | $\begin{aligned} & 0 \\ & 0 \end{aligned}$ | $\begin{gathered} 100 \\ 20 \end{gathered}$ | ns/V |

* For voltage drops across the switch greater than 1.2 V (switch on), excessive $\mathrm{V}_{\mathrm{CC}}$ current may be drawn; i.e. the current out of the switch may contain both $V_{\text {CC }}$ and switch input components. The reliability of the device will be unaffected unless the Maximum Ratings are exceeded.

DC ELECTRICAL CHARACTERISTICS

| Symbol | Parameter | Test Conditions | $\mathrm{V}_{\mathrm{CC}}$ <br> (V) | $\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C}$ |  |  | $\mathrm{T}_{\mathrm{A}} \leq 85^{\circ} \mathrm{C}$ |  | $\mathrm{T}_{\mathrm{A}} \leq 125^{\circ} \mathrm{C}$ |  | Unit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Min | Typ | Max | Min | Max | Min | Max |  |
| $\mathrm{V}_{\mathrm{IH}}$ | Minimum High-Level Input Voltage ON/OFF Control Input | RON = Per Spec | $\begin{aligned} & 3.0 \\ & 4.5 \\ & 5.5 \end{aligned}$ | $\begin{aligned} & 1.2 \\ & 2.0 \\ & 2.0 \end{aligned}$ |  |  | $\begin{aligned} & 1.2 \\ & 2.0 \\ & 2.0 \end{aligned}$ |  | $\begin{aligned} & 1.2 \\ & 2.0 \\ & 2.0 \end{aligned}$ |  | V |
| $\mathrm{V}_{\text {IL }}$ | Maximum Low-Level Input Voltage ON/OFF Control Input | RON = Per Spec | $\begin{aligned} & 3.0 \\ & 4.5 \\ & 5.5 \end{aligned}$ |  |  | $\begin{gathered} 0.53 \\ 0.8 \\ 0.8 \end{gathered}$ |  | $\begin{gathered} 0.53 \\ 0.8 \\ 0.8 \end{gathered}$ |  | $\begin{gathered} 0.53 \\ 0.8 \\ 0.8 \end{gathered}$ | V |
| In | Maximum Input Leakage Current ON/OFF Control Input | $\mathrm{V}_{\text {IN }}=\mathrm{V}_{\text {CC }}$ or GND | $\begin{aligned} & 0 \text { to } \\ & 5.5 \end{aligned}$ |  |  | $\pm 0.1$ |  | $\pm 1.0$ |  | $\pm 1.0$ | $\mu \mathrm{A}$ |
| ICC | Maximum Quiescent Supply Current | $\begin{aligned} & V_{I N}=V_{C C} \text { or } G N D \\ & V_{I O}=0 V \end{aligned}$ | 5.5 |  |  | 2.0 |  | 20 |  | 40 | $\mu \mathrm{A}$ |
| ICCT | Quiescent Supply Current | ON/OFF Control at 3.4 V | 5.5 |  |  | 1.35 |  | 1.5 |  | 1.65 | mA |
| RON | Maximum "ON" <br> Resistance | $\begin{array}{\|l} \hline V_{I N}=V_{I H} \\ V_{I S}=V_{C C} \text { or GND } \\ \left\|l_{I S}\right\| \leq 10 \mathrm{~mA} \text { (Figure 1) } \\ \hline \end{array}$ | $\begin{aligned} & 3.0 \\ & 4.5 \\ & 5.5 \end{aligned}$ |  | $\begin{aligned} & 30 \\ & 20 \\ & 15 \end{aligned}$ | $\begin{aligned} & 50 \\ & 30 \\ & 20 \end{aligned}$ |  | $\begin{aligned} & 70 \\ & 40 \\ & 35 \end{aligned}$ |  | $\begin{aligned} & 100 \\ & 50 \\ & 45 \end{aligned}$ | $\Omega$ |
|  |  | Endpoints <br> $\mathrm{V}_{\mathrm{IN}}=\mathrm{V}_{\text {IH }}$ <br> $\mathrm{V}_{\text {IS }}=\mathrm{V}_{\mathrm{CC}}$ or GND <br> $\mid$ IIS $\mid \leq 10 \mathrm{~mA}$ (Figure 1) | $\begin{aligned} & 3.0 \\ & 4.5 \\ & 5.5 \end{aligned}$ |  | $\begin{gathered} 25 \\ 12 \\ 8 \end{gathered}$ | $\begin{aligned} & 50 \\ & 20 \\ & 15 \end{aligned}$ |  | $\begin{aligned} & 65 \\ & 26 \\ & 23 \end{aligned}$ |  | $\begin{aligned} & 90 \\ & 40 \\ & 32 \end{aligned}$ | $\Omega$ |
| IOFF | Maximum Off-Channel Leakage Current | $\begin{array}{\|l} \hline V_{\text {IN }}=V_{I L} \\ V_{I S}=V_{C C} \text { or GND } \\ \text { Switch Off (Figure 2) } \end{array}$ | 5.5 |  |  | 0.1 |  | 0.5 |  | 1.0 | $\mu \mathrm{A}$ |
| ION | Maximum On-Channel <br> Leakage <br> Current | $\begin{aligned} & \hline V_{I N}=V_{I H} \\ & V_{I S}=V_{C C} \text { or GND } \\ & \text { Switch On (Figure 3) } \\ & \hline \end{aligned}$ | 5.5 |  |  | 0.1 |  | 0.5 |  | 1.0 | $\mu \mathrm{A}$ |

AC ELECTRICAL CHARACTERISTICS ( $C_{\text {load }}=50 \mathrm{pF}$, Input $\mathrm{t}_{\mathrm{r}} / \mathrm{t}_{\mathrm{f}}=3.0 \mathrm{~ns}$ )

| Symbol | Parameter | Test Conditions | $\mathrm{V}_{\mathrm{CC}}$ <br> (V) | $\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C}$ |  |  | $\mathrm{T}_{\mathrm{A}} \leq 85^{\circ} \mathrm{C}$ |  | $\mathrm{T}_{\mathrm{A}} \leq 125^{\circ} \mathrm{C}$ |  | Unit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Min | Typ | Max | Min | Max | Min | Max |  |
| $\begin{aligned} & \text { tPLH, } \\ & \text { tPHL } \end{aligned}$ | Maximum Propogation Delay, Input $X$ to $Y$ | $\mathrm{Y}_{\mathrm{A}}=\text { Open }$ <br> Figure 4 | $\begin{aligned} & 2.0 \\ & 3.0 \\ & 4.5 \\ & 5.5 \end{aligned}$ |  | 1 0 0 0 | 5 2 1 1 |  | 6 3 1 1 |  | $\begin{aligned} & 7 \\ & 4 \\ & 2 \\ & 1 \end{aligned}$ | ns |
| $\begin{aligned} & \text { tplz, } \\ & \text { tpH7 } \end{aligned}$ | Maximum <br> Propogation Delay, ON/OFF Control to Analog Output | $R_{L}=1000 \Omega$ <br> Figure 5 | $\begin{aligned} & 2.0 \\ & 3.0 \\ & 4.5 \\ & 5.5 \end{aligned}$ |  | 15 8 6 4 | $\begin{gathered} 35 \\ 15 \\ 10 \\ 7 \end{gathered}$ |  | $\begin{gathered} 46 \\ 20 \\ 13 \\ 9 \end{gathered}$ |  | $\begin{aligned} & 57 \\ & 25 \\ & 17 \\ & 11 \end{aligned}$ | ns |
| $\begin{aligned} & \text { tPZL, } \\ & \text { tPZH } \end{aligned}$ | Maximum <br> Propogation Delay, ON/OFF Control to Analog Output | $\mathrm{R}_{\mathrm{L}}=1000 \Omega$ <br> Figure 5 | $\begin{aligned} & 2.0 \\ & 3.0 \\ & 4.5 \\ & 5.5 \end{aligned}$ |  | 15 8 6 4 | $\begin{gathered} 35 \\ 15 \\ 10 \\ 7 \end{gathered}$ |  | $\begin{gathered} 46 \\ 20 \\ 13 \\ 9 \end{gathered}$ |  | $\begin{aligned} & 57 \\ & 25 \\ & 17 \\ & 11 \end{aligned}$ | ns |
| $\mathrm{CIN}_{\text {N }}$ | Maximum Input Capacitance | ON/OFF Control Input | 0.0 |  | 3 | 10 |  | 10 |  | 10 | pF |
|  |  | Contol Input = GND <br> Analog I/O <br> Feedthrough | 5.0 |  | 4 4 | $\begin{aligned} & 10 \\ & 10 \end{aligned}$ |  | $\begin{aligned} & 10 \\ & 10 \end{aligned}$ |  | $\begin{aligned} & 10 \\ & 10 \end{aligned}$ |  |


| CPD | Power Dissipation Capacitance (Note NO TAG) | Typical @ $\mathbf{2 5}{ }^{\circ} \mathrm{C}, \mathbf{V} \mathbf{C C}=\mathbf{5 . 0 V}$ |  |
| :--- | :--- | :---: | :---: |
|  | 18 | pF |  |

1. CPD is defined as the value of the internal equivalent capacitance which is calculated from the operating current consumption without load.

Average operating current can be obtained by the equation: $\operatorname{ICC}(O P R)=C_{P D} \cdot \mathrm{~V}_{\mathrm{CC}} \cdot \mathrm{fin}_{\mathrm{in}}+\mathrm{I}_{\mathrm{CC}} . \mathrm{C}_{\mathrm{PD}}$ is used to determine the no-load dynamic
power consumption; $\mathrm{P}_{\mathrm{D}}=\mathrm{C}_{\mathrm{PD}} \bullet \mathrm{V}_{\mathrm{CC}}{ }^{2} \bullet \mathrm{f}_{\mathrm{in}}+\mathrm{I}_{\mathrm{CC}} \bullet \mathrm{V}_{\mathrm{CC}}$.

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ADDITIONAL APPLICATION CHARACTERISTICS (Voltages Referenced to GND Unless Noted)

| Symbol | Parameter | Test Conditions | Vcc | $\begin{aligned} & \text { Limit } \\ & 25^{\circ} \mathrm{C} \end{aligned}$ | Unit |
| :---: | :---: | :---: | :---: | :---: | :---: |
| BW | Maximum On-Channel Bandwidth or Minimum Frequency Response Figure 7 | $\mathrm{f}_{\text {in }}=1 \mathrm{MHz}$ Sine Wave <br> Adjust $f_{\text {in }}$ voltage to obtain 0 dBm at $\mathrm{V}_{\mathrm{OS}}$ Increase $f_{i n}=$ frequency until $d B$ meter reads $-3 d B$ $R_{L}=50 \Omega, C_{L}=10 \mathrm{pF}$ | $\begin{aligned} & 3.0 \\ & 4.5 \\ & 5.5 \end{aligned}$ | $\begin{aligned} & 150 \\ & 175 \\ & 200 \end{aligned}$ | MHz |
| $\mathrm{ISO}_{\text {off }}$ | Off-Channel Feedthrough Isolation Figure 8 | $\mathrm{f}_{\text {in }}=$ Sine Wave <br> Adjust $f_{\text {in }}$ voltage to obtain 0 dBm at $\mathrm{V}_{\text {IS }}$ $\begin{aligned} & \mathrm{f}_{\text {in }}=10 \mathrm{kHz}, \mathrm{R}_{\mathrm{L}}=600 \Omega, \mathrm{C}_{\mathrm{L}}=50 \mathrm{pF} \\ & \mathrm{f}_{\text {in }}=1.0 \mathrm{kHz}, \mathrm{R}_{\mathrm{L}}=50 \Omega, \mathrm{C}_{\mathrm{L}}=10 \mathrm{pF} \end{aligned}$ | 3.0 4.5 5.5 3.0 4.5 5.5 | -50 -50 -50 -40 -40 -40 | dB |
| NOISE ${ }_{\text {feed }}$ | Feedthrough Noise Control to Switch <br> Figure 9 | $\mathrm{V}_{\text {in }} \leq 1 \mathrm{MHz}$ Square Wave ( $\mathrm{t}_{\mathrm{r}}=\mathrm{t}_{\mathrm{f}}=2 \mathrm{~ns}$ ) <br> Adjust $R_{L}$ at setup so that $I_{S}=0 \mathrm{~A}$ $R_{L}=600 \Omega, C_{L}=50 \mathrm{pF}$ $R_{L}=50 \Omega, C_{L}=10 \mathrm{pF}$ | 3.0 <br> 4.5 <br> 5.5 <br> 3.0 <br> 4.5 <br> 5.5 | $\begin{gathered} 45 \\ 60 \\ 130 \\ \hline 25 \\ 30 \\ 60 \end{gathered}$ | mV PP |
| THD | Total Harmonic Distortion Figure 10 | $\mathrm{f}_{\mathrm{in}}=1 \mathrm{kHz}, \mathrm{R}_{\mathrm{L}}=10 \mathrm{k} \Omega, \mathrm{C}_{\mathrm{L}}=50 \mathrm{pF}$ THD $=$ THD Measured - THD $_{\text {Source }}$ $\mathrm{V}_{\text {IS }}=3.0 \mathrm{~V}$ PP sine wave <br> $\mathrm{V}_{\text {IS }}=4.0 \mathrm{~V}$ PP sine wave <br> $\mathrm{V}_{\text {IS }}=5.0 \mathrm{~V}$ PP sine wave | $\begin{aligned} & 3.3 \\ & 4.5 \\ & 5.5 \end{aligned}$ | $\begin{aligned} & 0.20 \\ & 0.10 \\ & 0.06 \end{aligned}$ | \% |

1. CPD is defined as the value of the internal equivalent capacitance which is calculated from the operating current consumption without load. Average operating current can be obtained by the equation: $\mathrm{I} C \mathrm{C}(\mathrm{OPR})=\mathrm{CPD}_{\mathrm{P}} \cdot \mathrm{V}_{\mathrm{CC}} \cdot \mathrm{f}_{\mathrm{in}}+\mathrm{I}_{\mathrm{CC}}$. $\mathrm{C}_{\mathrm{PD}}$ is used to determine the no-load dynamic power consumption; $\mathrm{P}_{\mathrm{D}}=\mathrm{C}_{\mathrm{PD}} \cdot \mathrm{V}_{\mathrm{CC}}{ }^{2} \bullet \mathrm{f}_{\text {in }}+\mathrm{I}_{\mathrm{CC}} \cdot \mathrm{V}_{\mathrm{CC}}$.

## MC74VHC1GT66



Figure 1. On Resistance Test Set-Up


Figure 3. Maximum On-Channel Leakage Current Test Set-Up

Figure 5. Propagation Delay Output Enable/Disable Test Set-Up



Figure 2. Maximum Off-Channel Leakage Current Test Set-Up


Figure 4. Propagation Delay Test Set-Up


Figure 6. Power Dissipation Capacitance Test Set-Up

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Figure 7. Maximum On-Channel Bandwidth Test Set-Up


Figure 8. Off-Channel Feedthrough Isolation Test Set-Up


Figure 9. Feedthrough Noise, ON/OFF Control to Analog Out, Test Set-Up


Figure 11. Propagation Delay, Analog In to Analog Out Waveforms


Figure 12. Propagation Delay, ON/OFF Control

MC74VHC1GT66

DEVICE ORDERING INFORMATION

|  | Device Nomenclature |  |  |  |  |  | Package Type | Tape and Reel Size |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Device Order Number | Circuit Indicator | Temp Range Identifier | Technology | Device Function | Package Suffix | Tape \& Reel Suffix |  |  |
| MC74VHC1GT66DFT1 | MC | 74 | VHC1G | T66 | DF | T1 | $\begin{aligned} & \text { SC-88A / } \\ & \text { SOT-353 } \end{aligned}$ | 7-Inch/3000 Unit |

## PACKAGE DIMENSIONS

SC-88A / SOT-353
DF SUFFIX
5-LEAD PACKAGE
CASE 419A-01
ISSUE B

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982
2. CONTROLLING DIMENSION: MM.

| DIM | INCHES |  | MILLIMETERS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | MIN | MAX | MIN | MAX |  |
| A | 0.071 | 0.087 | 1.80 | 2.20 |  |
| B | 0.045 | 0.053 | 1.15 | 1.35 |  |
| C | 0.031 | 0.043 | 0.80 | 1.10 |  |
| D | 0.004 | 0.012 | 0.10 |  | 0.30 |
| G | 0.026 BSC |  | 0.65 |  | BSC |
| H | - | 0.004 | - | 0.10 |  |
| J | 0.004 | 0.010 | 0.10 |  | 0.25 |
| K | 0.004 | 0.012 | 0.10 |  | 0.30 |
| N | 0.008 |  | REF | 0.20 |  |
| REF |  |  |  |  |  |
| S | 0.079 | 0.087 | 2.00 |  | 2.20 |
| V | 0.012 | 0.016 | 0.30 | 0.40 |  |



## MC74VHC1GT66



Figure 13. Carrier Tape Specifications

EMBOSSED CARRIER DIMENSIONS (See Notes 1 and 2)

| Tape Size | $\begin{aligned} & B_{1} \\ & \operatorname{Max} \end{aligned}$ | D | $\mathrm{D}_{1}$ | E | F | K | P | $\mathrm{P}_{0}$ | $\mathrm{P}_{2}$ | R | T | W |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8 mm | $\begin{aligned} & 4.35 \mathrm{~mm} \\ & \left(0.171^{\prime \prime}\right) \end{aligned}$ | $\begin{gathered} 1.5+0.1 / \\ -0.0 \mathrm{~mm} \\ (0.059 \\ +0.004 / \\ -0.010) \end{gathered}$ |  | $\begin{gathered} 1.75 \\ \pm 0.1 \mathrm{~mm} \\ (0.069 \\ \left. \pm 0.004^{\prime \prime}\right) \end{gathered}$ | $\begin{gathered} 3.5 \\ \pm 0.5 \mathrm{~mm} \\ (1.38 \\ \left. \pm 0.002^{\prime \prime}\right) \end{gathered}$ | $\begin{aligned} & 2.4 \mathrm{~mm} \\ & \left(0.094^{\prime \prime}\right) \end{aligned}$ | $\begin{gathered} 4.0 \\ \pm 0.10 \mathrm{~mm} \\ (0.157 \\ \left. \pm 0.004^{\prime \prime}\right) \end{gathered}$ | $\begin{gathered} 4.0 \\ \pm 0.1 \mathrm{~mm} \\ (0.156 \\ \left. \pm 0.004^{\prime \prime}\right) \end{gathered}$ | $\begin{gathered} 2.0 \\ \pm 0.1 \mathrm{~mm} \\ (0.079 \\ \left. \pm 0.002^{\prime \prime}\right) \end{gathered}$ | $\begin{aligned} & 25 \mathrm{~mm} \\ & \left(0.98^{\prime \prime}\right) \end{aligned}$ | $\begin{gathered} 0.3 \\ \pm 0.05 \mathrm{~mm} \\ (0.01 \\ +0.0038 / \\ \left.-0.0002^{\prime \prime}\right) \end{gathered}$ | $\begin{gathered} 8.0 \\ \pm 0.3 \mathrm{~mm} \\ (0.315 \\ \left. \pm 0.012^{\prime \prime}\right) \end{gathered}$ |

1. Metric Dimensions Govern-English are in parentheses for reference only.
2. $A_{0}, B_{0}$, and $K_{0}$ are determined by component size. The clearance between the components and the cavity must be within 0.05 mm min to 0.50 mm max. The component cannot rotate more than $10^{\circ}$ within the determined cavity


Figure 14. Reel Dimensions

REEL DIMENSIONS

| Tape <br> Size | A Max | G | t Max |
| :---: | :---: | :---: | :---: |
| 8 mm | 330 mm <br> $\left(13^{\prime \prime}\right)$ | $8.400 \mathrm{~mm},+1.5 \mathrm{~mm},-0.0$ <br> $\left(0.33^{\prime \prime},+0.059^{\prime \prime},-0.00\right)$ | 14.4 mm <br> $\left(0.56^{\prime \prime}\right)$ |



Figure 15. Reel Winding Direction

## MC74VHC1GT66



Figure 16. Tape Ends for Finished Goods


Figure 17. Reel Configuration

MC74VHC1GT66
Notes

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