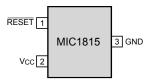
Pin Configuration



3-Lead SOT23

Pin Description

Pin Number	Pin Name	Pin Function
1	/RESET	/RESET goes low if $V_{\rm CC}$ falls below the reset threshold and remains asserted for one reset timeout period (100ms min) after $V_{\rm CC}$ exceeds the reset threshold.
2	VCC	Power supply input.
3	GND	IC ground pin

Absolute Maximum Ratings(Note 1)

Terminal Voltage (V _{CC})	0.3V to +6V
Input Current (V _{CC})	20mA
Output Current (/RESET)	20mA
Rate of Rise (V _{CC})	100V/µs
Lead Temperature (soldering, 10 sec.)	300°C
Storage Temperature (T _S)	–65°C to 150°C
ESD Rating. Note 3	3kV

Operating Ratings(Note 2)

Operating Temperature Range	
MIC1815-10U	40°C to +85°C
MIC1815-20U	40°C to +85°C
Power Dissipation (T ₄ = $+70^{\circ}$ C)	320mW

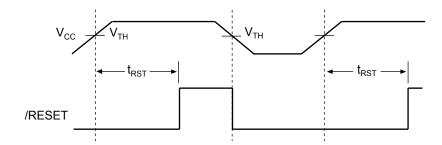
Electrical Characteristics

For typical values, V_{CC} = 3.3V, T_A = 25°C; **bold** values indicate –40°C ≤ T_A ≤ +85°C; unless noted

Symbol	Parameter	Condition	Min	Тур	Max	Units
$\overline{V_{CC}}$	Operating Temperature Range	$T_A = -40^{\circ}\text{C to } +85^{\circ}\text{C}$	1		5.5	V
I _{CC}	Supply Current			5	20	μA
V_{TH}	Reset Voltage Threshold	MIC1815-10U	2.80	2.88	2.97	V
		MIC1815-20U	2.47	2.55	2.64	V
t _{RST}	Reset Timeout Period		100	150	250	ms
V_{OH}	/RESET Output Voltage	I _{SOURCE} = 800μA	1.5			V
V_{OL}	/RESET Output Voltage	V _{CC} = V _{TH} min., I _{SINK} = 10mA			0.4	V
		V _{CC} > 1V, I _{SINK} = 50μA			0.3	V

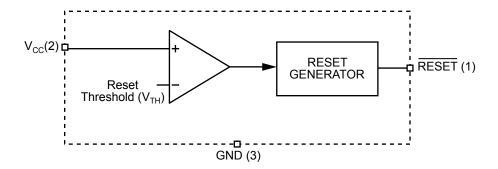
- Note 1. Exceeding the absolute maximum rating may damage the device.
- Note 2. The device is not guaranteed to function outside its operating rating.
- Note 3. Devices are ESD sensitive. Handling precautions recommended. Human body model, 1.5k in series with 100pF.

Timing Diagram



Reset Timing Diagram

Functional Diagram



Applications Information

Microprocessor Reset

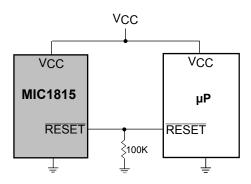
The /RESET pin is asserted whenever V_{CC} falls below the reset threshold voltage. The reset pin remains asserted for a period of t_{RST} after V_{CC} has risen above the reset threshold voltage. The reset function ensures the microprocessor is properly reset and powers up into a known condition after a power failure. /RESET will remain valid with V_{CC} as low as 1V.

V_{CC} Transients

The MIC1815 is relatively immune to negative-going V_{CC} glitches below the reset threshold. Typically, a negative-going transient 125mV below the reset threshold with a duration of 20µs or less will not cause an unwanted reset.

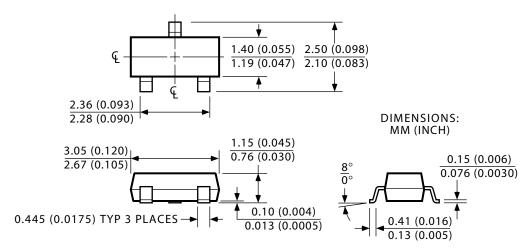
/RESET Valid at Low Voltage

A resistor can be added from the /RESET pin-to-ground to ensure the /RESET output remains low with V_{CC} down to 0V. A 100k Ω resistor connected from /RESET-to-ground is recommended. The resistor should be large enough not to load the /RESET output and small enough to pull-down any stray leakage currents. See Figure below.



/RESET Valid to $V_{CC} = 0V$

Package Information



3-Pin SOT-23 Small Outline Transistor

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