

Step (LC)  
NP456H

Electrical Characteristics (Notes 1, 2) (Continued)							
(T <sub>A</sub> = 25°C, V <sub>CC</sub> = -5V to +15V, unless otherwise specified)							
Parameter	Conditions	Limits					
		LM555			LM555C		
		Min	Typ	Max	Min	Typ	Max
Output Voltage Drop (Low)	V <sub>CC</sub> = 15V						
	I <sub>SINK</sub> = 10 mA		0.1	0.15		0.1	0.25
	I <sub>SINK</sub> = 50 mA		0.4	0.5		0.4	0.75
	I <sub>SINK</sub> = 100 mA		2	2.2		2	2.5
	I <sub>SINK</sub> = 200 mA		2.5			2.5	
	V <sub>CC</sub> = 5V						
Output Voltage Drop (High)	I <sub>SINK</sub> = 8 mA		0.1	0.25			
	I <sub>SINK</sub> = 5 mA					0.25	0.35
	I <sub>SOURCE</sub> = 200 mA, V <sub>CC</sub> = 15V		12.5			12.5	
	I <sub>SOURCE</sub> = 100 mA, V <sub>CC</sub> = 15V	13	13.3		12.75	13.3	
Rise Time of Output	V <sub>CC</sub> = 5V		3	3.3		2.75	3.3
Fall Time of Output			100			100	
			100			100	

Units: V, V, V, V, V, V, V, V, ns, ns

**Note 1:** All voltages are measured with respect to the ground pin, unless otherwise specified.

**Note 2:** Absolute Maximum Ratings indicate limits beyond which damage to the device may occur. Operating Ratings indicate conditions for which the device is functional, but do not guarantee specific performance limits. Electrical Characteristics state DC and AC electrical specifications under particular test conditions which guarantee specific performance limits. This assumes that the device is within the Operating Ratings. Specifications are not guaranteed for parameters where no limit is given, however, the typical value is a good indication of device performance.

**Note 3:** For operating at elevated temperatures the device must be derated above 25°C based on a +150°C maximum junction temperature and a thermal resistance of 184°C/W (TO-8), 106°C/W (DIP), 170°C/W (SO-8), and 204°C/W (MSOP) junction to ambient.

**Note 4:** Supply current when output high typically 1 mA less at V<sub>CC</sub> = 5V.

**Note 5:** Tested at V<sub>CC</sub> = 5V and V<sub>CC</sub> = 15V.

**Note 6:** This will determine the maximum value of R<sub>A</sub> + R<sub>B</sub> for 15V operation. The maximum total (R<sub>A</sub> + R<sub>B</sub>) is 20 MΩ.

**Note 7:** No protection against excessive pin 7 current is necessary providing the package dissipation rating will not be exceeded.

**Note 8:** Refer to RETS665X drawing of military LM555H and LM555J versions for specifications.

### Connection Diagrams

