

# IN555, IN556, IN558

## CMOS GENERAL PURPOSE TIMER

### General Description

The IN555, IN556, IN558 are CMOS RC timers providing significantly improved performance over the standard SE/NE555/556/558 and 355 timers, while at the same time being direct replacements for those devices in most applications. Improved parameters include low supply current, wide operating supply voltage range, low THRESHOLD, TRIGGER, and RESET currents, no crowbaring of the supply current during output transitions, higher frequency performance and no requirement to decouple CONTROL VOLTAGE for stable operation.

Specifically, the IN555/556/558 are stable controllers capable of producing accurate time delays of frequencies. The IN556 is a dual IN555, with the two timers operating independently of each other, sharing only V<sub>CC</sub> and GND. The 558 Quad Timers are monolithic timing devices can be used in a monostable mode to produce accurate time delays.

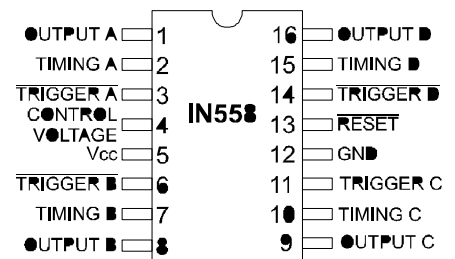
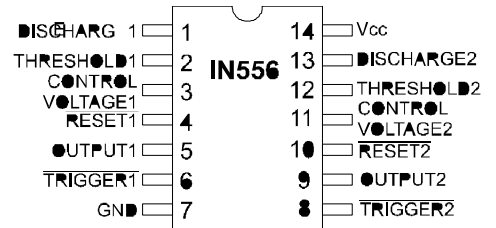
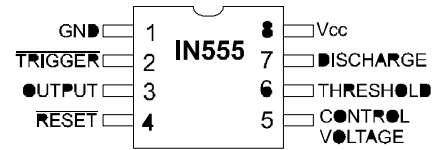
### Features

- Exact equivalent in most causes for SE/NE555/556/558
- Low Supply Current
- High speed operation – 500kHz guaranteed
- Wide operation supply voltage range – 2 to 18 volts
- High output source/sink driver can drive TTL/CMOS

### Package Outline

- DIL (MS-001BA, MS-001AA, MS-001BB)
- SO (MS-012AA, MS-012AB, MS-012AC)

### Pin Configuration



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### Absolute Maximum Ratings

Supply Voltage	$V_{CC}$	+18V
Output Current	$I_O$	100mA
Operating Temperature	$T_{OPR}$	-20° to +70°C
Storage Temperature	$T_{STG}$	-65°C to +150°C
Lead Temperature (10 seconds)	$T_{Solder}$	260°C

Parameter	Symbol	Test Conditions	Value		Units	
			$V_{NN}$	Min		Max
Supply Voltage	$V_{NN}$	-20°C ≤ $T_A$ ≤ +70°C		2	18	V
Supply Current	$I_{CC}$	IN555	2	—	200	μA
			18	—	300	
		IN556	2	—	400	
			18	—	600	
		IN558	2	—	800	
			18	—	1200	
Timing error		R=1– 100kΩ, C = 0,1 μF 5V < $V_{CC}$ < 15V			5,0	% 10 <sup>-6</sup> /°C
Initial Accuracy			5		200	
Drift with Temperature			10		300	
Drift with Supply Voltage			15		600	% / V
		5		3,6		
Threshold Voltage	$V_{TH}$		5	0,65	0,7	$V_{CC}$
Trigger voltage	$V_{TRIG}$		5	0,31	0,36	$V_{CC}$
Reset voltage	$V_{RST}$		18	0,4	1,0	V
			2	0,4	1,0	
Control Voltage Lead	$V_{CV}$			0,65	0,69	$V_{CC}$
Output voltage Low	$V_{OL}$	$I_O = 20$ mA	15		1,0	V
		$I_O = 3,2$ mA	5		0,4	
Output voltage High	$V_{OH}$	$I_O = 0,8$ mA	15	14,3		V
		$I_O = 0,8$ mA	5	4,0		
Rise (Fall) Time of Output	$t_{TLH}$ , $t_{THL}$	$R_L = 10$ MΩ, $C_L = 10$ pF	5	35	75	ns
Guaranteed Max Osc Freq		Astable Operation		500		kHz
Note: $T_A = 25^\circ\text{C}$ , $V_{CC} = 2 - 15$ V unless other specified						

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