IN555, IN556, IN558

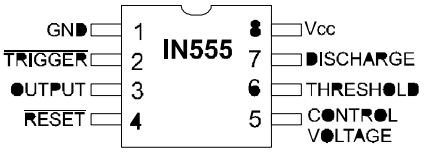
CMOS GENERAL PURPOSE TIMER

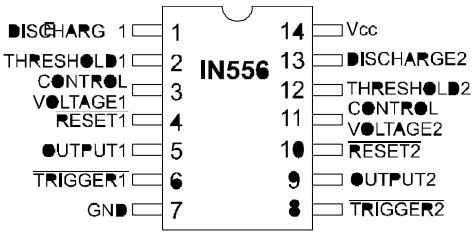
General Description

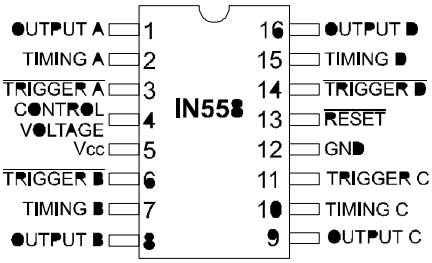
The IN555, IN556, IN558 are CMOS RC timers providing significantly improved performance over the standard SE/NE555/556/558 and 355 timers, while at the same time being direct replacements for those devices in most applications. Improved parameters include low supply current, wide operating supply voltage range, low THRESHOLD, TRIGGER, and RESET currents, no crowbarring 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_{CC} and GND. The 558 Quad Timers are monolithic timing devices can be used in a monostable mode to produce accurate time delays.

Pin Configuration







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)

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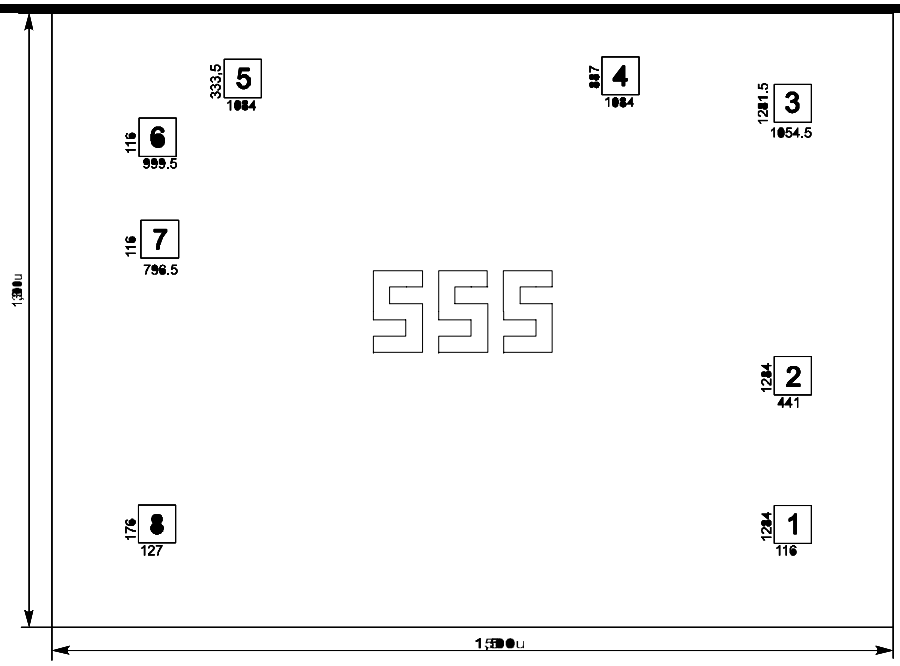
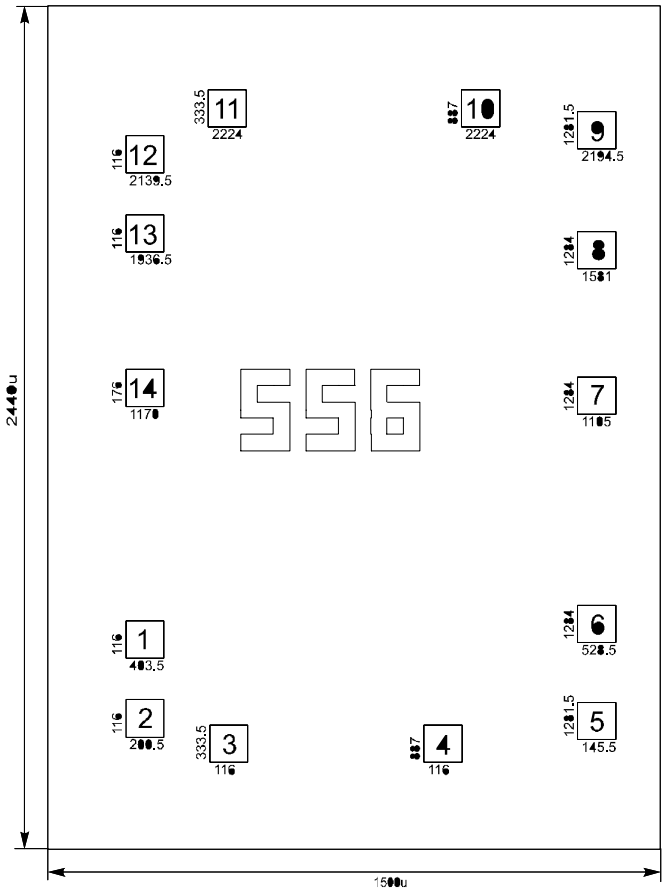
Absolute Maximum Ratings

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
			$V_{ÑÑ}$	Min	Max	
Supply Voltage	$V_{ÑÑ}$	-20°C ≤ T_A ≤ +70°C		2	18	V
Supply Current	I_{CC}	IN555	2 18	— —	200 300	µA
		IN556	2 18	— —	400 600	
		IN558	2 18	— —	800 1200	
Timing error Initial Accuracy Drift with Temperature Drift with Supply Voltage		R=1– 100kΩ, C = 0,1 µF 5V < V_{CC} < 15V	 5 10 15 5		 5,0 200 300 600 3,6	 % 10^{-6}/°C % / V
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 2	0,4 0,4	1,0 1,0	V
Control Voltage Lead	V_{CV}			0,65	0,69	V_{CC}
Output voltage Low	V_{OL}	I_O = 20 mA I_O = 3,2 mA	15 5		1,0 0,4	V
Output voltage High	V_{OH}	I_O = 0,8 mA I_O = 0,8 mA	15 5	14,3 4,0		V
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°C, Vcc=2 – 15 V unless other specified						





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