

TRANSISTOR TESTER

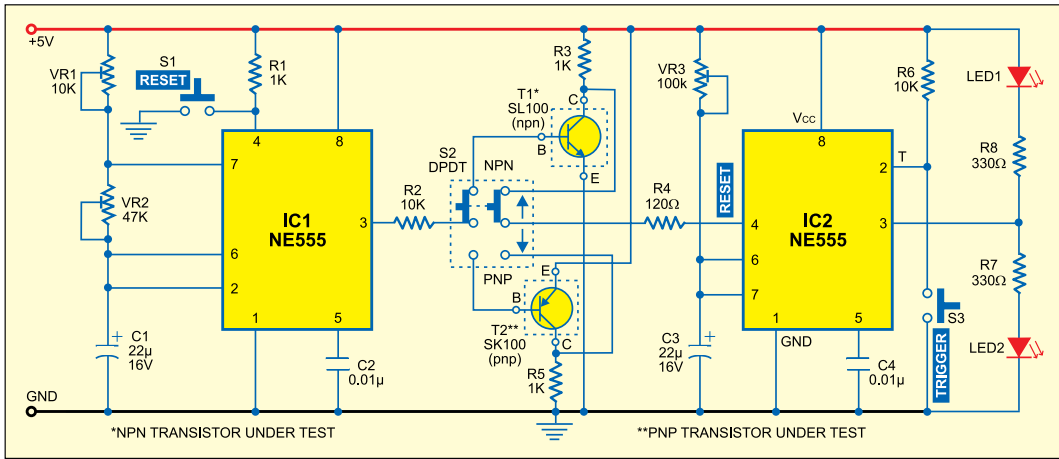
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You can test both npn and pnp transistors using this circuit. The circuit indicates whether the transistor is good, open or shorted through two light-emitting diodes (LEDs).

The circuit comprises two NE555 timer ICs: one (IC1) is wired in the astable mode and the other (IC2) in the monostable mode. The time period of the astable multivibrator is around 0.5 second. Its output goes to the base of the npn/pnp transistor under test via

Transistor Assessment from Glowing of LEDs

Switch S3	npn transistor	LED1	LED2
Kept pressed	Good	Flickers	Flickers
Pressed momentarily to trigger IC2	Collector-emitter short	Glow	Doesn't glow
Pressed momentarily to trigger IC2	Collector-emitter open	Remains 'off' for two seconds, then glows	Glow for the set time (say, two seconds) and then turns off
Switch S3	pnp transistor	LED1	LED2
Kept pressed	Good	Flickers	Flickers
Pressed momentarily to trigger IC2	Collector-emitter short	Remains 'off' for two seconds, then glows	Glow for the set time (say, two seconds), then turns off
Pressed momentarily to trigger IC2	Collector-emitter open	Glow	Remains 'off'



DPDT switch S2.

Switch S2 selects the npn/pnp transistor you are going to test, which means that at a time only an npn or a

pnp transistor can be tested. The collector of npn or pnp transistor goes to reset pin 4 of the monostable (IC2). Switch S3 is used to trigger the monostable. The

monostable via switch S3, you can infer whether the transistor is good, short or open-circuited, as shown in the table. ●

time period of the monostable multivibrator is around two seconds.

To test a transistor, insert it at the appropriate place shown within dotted lines and slide switch S2 towards the transistor type (npn or pnp) being tested. From glowing of LED1 and LED2 on triggering of the