

Operational Amplifier/ Comparator

With Shutdown Control and Isolated Transistor

FEATURES:

- Operates from single power supply
- High output current (50 mA max.)
- Output sink current or drive current capability
- Output disable control

The RCA-CA3177E* is a multiple-control amplifier/comparator monolithic integrated circuit intended for use in general purpose applications requiring comparator functions with logic override switching and control. An op-amp with differential inputs drives an output transistor with high current capability. An isolated transistor is also available for optional use.

Applications:

- Comparator
- Switching and gating control
- Power switch/amplifier
- Switching regulator
- Pulse width modulator
- TV horizontal drive amplifier

The CA3177E is supplied in the 8-lead dual-in-line plastic (Mini-DIP) package.

*Formerly RCA Dev. Type No. TA10387.

MAXIMUM RATINGS, Absolute-Maximum Values:

DC SUPPLY VOLTAGE:	
V1, V5, V5	+15 V
INPUT CURRENT:	
13, 14, 17, 18	± 1 mA
OUTPUT CURRENT:	
11	50 mA
16	10 mA
DEVICE DISSIPATION, (Including Q14):	
At T _A ≤ 25°C	625 mW
At T _A > 25°C	Derate linearly 5 mW/°C
Q14 DISSIPATION:	
At T _A ≤ 25°C	150 mW
At T _A > 25°C	Derate linearly 1.2 mW/°C
AMBIENT TEMPERATURE RANGE:	
Operating	0 to +70°C
Storage	-65 to +150°C
LEAD TEMPERATURE (DURING SOLDERING):	
At distance 1/16 ± 1/32 inch (1.59 ± 0.79 mm) from case for 10 s max.	265°C

CA3177

ELECTRICAL CHARACTERISTICS at $T_A = 25^\circ\text{C}$, $V^+ (V5) = 15\text{ V}$,
except as noted

CHARACTERISTIC	CONDITIONS	LIMITS		UNITS
		Min.	Max.	
Operational Amplifier				
Input Offset Voltage, V_{IO}		—	100	mV
Input Bias Current, I_B		—	15	μA
Common-Mode Input Voltage Range, V_{ICR}		2	12	V
Amplifier Supply Current, I_S		3	10	mA
Q14 Amplifier				
DC Forward-Current Transfer Ratio, h_{FE}	$V_{CE} = 10\text{ V}$, $I_B = 0.1\text{ mA}$ $V_{CE} = 10\text{ V}$, $I_B = 2\text{ mA}$	45	—	
Collector-to-Emitter Saturation Voltage, $V_{CE(sat)}$	$I_7 = 0.2\text{ mA}$, $I_8 = 2\text{ mA}$	—	0.6	V
Q1 Amplifier				
Collector-to-Emitter Saturation Voltage, $V_{CE(sat)}$	$I_8 = 0.15\text{ mA}$, $I_1 = 30\text{ mA}$	—	0.4	V

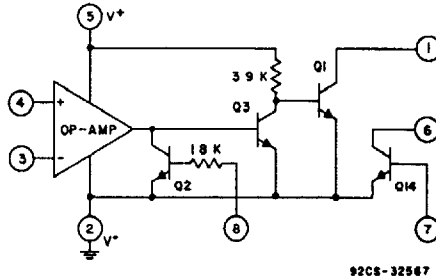
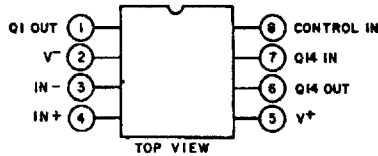


Fig. 1—Functional diagram for CA3177E.



**TOP VIEW
TERMINAL ASSIGNMENT**

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