

## SENSE AMPLIFIERS

### MC1441F,L,P (0 to +75°C) MC1541F,L (-55 to +125°C)

... consisting of a dual-channel gated sense amplifier with separate wideband differential input amplifiers. Either can be gated on from saturated logic levels. The sense amplifier features adjustable threshold, saturated logic output levels, and a strobe input that accommodates saturated logic levels. Designed to detect bipolar signals from either of two sense lines. Operates with core memory cycle times less than 0.5  $\mu$ s.

- Nominal Threshold — 17 mV
- Input Offset Voltage — 1.0 mV typical
- Propagation Delay
  - Input to Gate-Output — 20 ns
  - Input to Amplifier-Output — 10 ns
  - Gate Response Time — 15 ns
  - Strobe Response Time — 15 ns
- Common Mode Input Range — 1.5 Volts
- Differential Mode Input Range
  - With Gate On — 600 mV
  - With Gate Off — 1.5 Volts
- Power Dissipation — 140 mW typical

#### MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

RATING	SYMBOL	VALUE	UNIT
Power Supply Voltage	V <sup>+</sup> V <sup>-</sup>	+10 -10	Vdc Vdc
Differential Input Signal	V <sub>in</sub>	±5	Vdc
Common Mode Input Voltage	CMV <sub>in</sub>	±5	Vdc
Load Current	I <sub>L</sub>	25	mA
Power Dissipation (Package Limitation)	P <sub>o</sub>		mW
Flat Package		500	mW/°C
Derate above 25°C		3.3	mW/°C
Ceramic Dual In-Line Package		600	mW/°C
Derate above 25°C		4.8	mW/°C
Plastic Package		415	mW/°C
Derate above 25°C		3.3	mW/°C
Operating Temperature Range	T <sub>A</sub>		°C
MC1541F, MC1541L		-55 to +125	
MC1441F, MC1441L, MC1441P		0 to +75	
Storage Temperature Range	T <sub>stg</sub>		°C
Ceramic Packages		-65 to +150	
Plastic Package		-55 to +125	

#### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ )

TYPE	V <sup>+</sup> (Vdc)	V <sup>-</sup> (Vdc)	V <sub>TH</sub> <sup>+</sup> (mV)	A <sub>V</sub> (V/V)	V <sub>OH</sub> (Vdc)	V <sub>OL</sub> (mVdc)	t <sub>pd</sub> (ns)	t <sub>r</sub> (ns)	CMV <sub>in</sub> (Vpk)
MC1541	+5.0	-5.0	17	75	4.9	350	20	30	±5.0
MC1441	+5.0	-5.0	17	75	4.9	350	20	30	±5.0



**F SUFFIX**  
CASE 607  
(Formerly Case 83)  
TO-86



**L SUFFIX**  
CERAMIC PACKAGE  
CASE 605C  
TO-116



**P SUFFIX**  
PLASTIC PACKAGE  
CASE 605  
(Formerly Case 93)  
TO-116

