CA741/..., CA747/..., CA748/..., CA1558/...

High-Reliability Operational Amplifiers

High-Gain Single and Dual Operational Amplifiers

The CA741, CA748, and CA1558 Slash (/) Series types are supplied in the 8-lead TO-5 style package. The CA747 is supplied in the 10-lead TO-5 style package.

TABLE A. POST BURN-IN, FINAL ELECTRICAL AND GROUP A SAMPLING TESTS

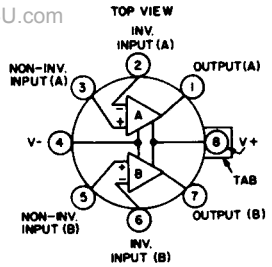
CHARACTERISTIC	SYMBOL	TEST CONDITIONS $V^+ = +15$ V, $V = -15$ V	LIMITS FOR INDICATED TEMPERATURES (°C)						UNITS
			MINIMUM			MAXIMUM			
			−55	+25	+125	−55	+25	+125	
STATIC									
Input Offset Voltage	V_{IO}	–	–	–	–	6	5	6	mV
Input Offset Current	I_{IO}	–	–	–	–	500	200	200	nA
Input Bias Current	I_I	–	–	–	–	1500	500	500	nA
Supply Current		–	–	–	–	3.3	2.8	2.5	mA
Device Dissipation	P_D	–	–	–	–	100	85	75	mW
DYNAMIC									
Open-Loop Differential Voltage Gain	A_{OL}	–	25000	50000	25000	–	–	–	
Common-Mode Rejection Ratio	CMRR	–	70	70	70	–	–	–	dB
Maximum Output-Voltage Swing	$V_{O(P-P)}$	$R_L \geq 10$ kΩ $R_L \geq 2$ kΩ	±12 ±10	±12 ±10	±12 ±10	– –	– –	– –	V
Common-Mode Input-Voltage Range	V_{ICR}	–	±12	±12	±12	–	–	–	V
Power-Supply Rejection, Ratio	P_{SRR}	–	76	76	76	–	–	–	db

TABLE B. DELTA LIMITS *at $T_A = 25°C$ (/1 only)*

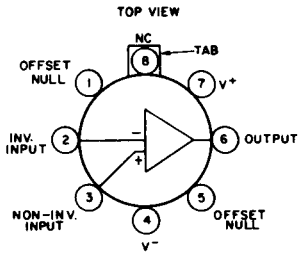
CHARACTERISTIC	SYMBOL	TEST CONDITIONS	LIMITS	UNITS
			MAX. Δ	
Input Offset Voltage	V_{IO}	–	±1	mV
Input Offset Current	I_{IO}	–	±24	nA
Input Bias Current	I_I	–	±60	nA
Device Dissipation	P_D	–	±18	mW

TABLE C. GROUPS C AND D END-POINT TESTS
at $T_A = 25°C$

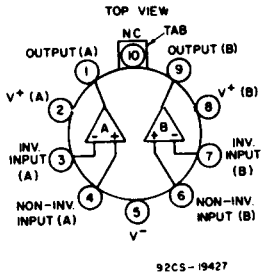
CHARACTERISTIC	SYMBOL	SPECIAL TEST CONDITIONS	LIMITS		UNITS
			MIN.	MAX.	
Input Offset Voltage	V_{IO}	–	–	8	mV
Input Offset Current	I_{IO}	–	–	240	nA
Input Bias Current	I_I	–	–	800	nA
Open-Loop Differential Voltage Gain	A_{OL}	f = 1 kHz	33000	–	
Supply Current			–	3	mA



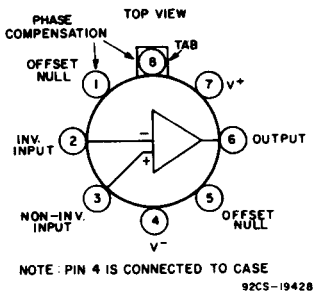
Functional diagram of CA1558T with internal phase compensation.



Functional diagram of CA741T with internal phase compensation.

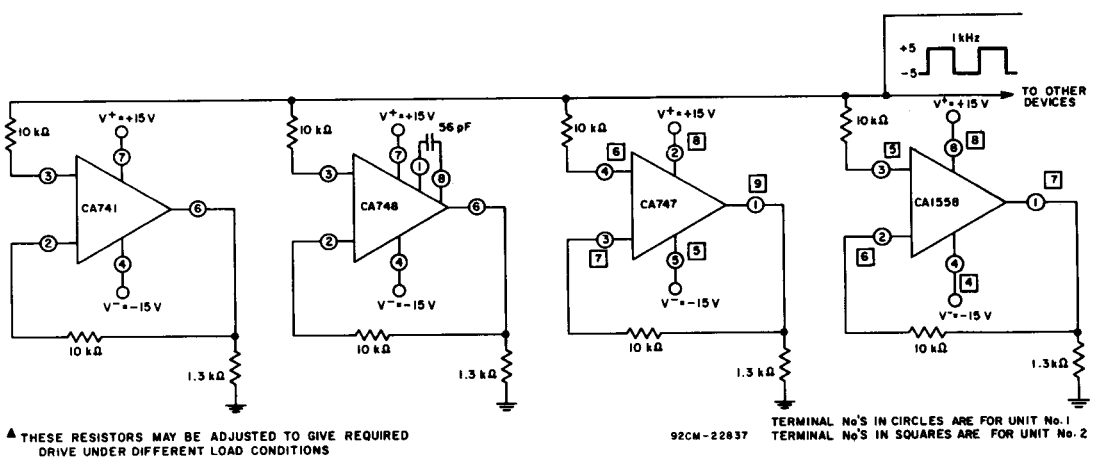


Functional diagram of CA747T with internal phase compensation.



Functional diagram of CA748T with external phase compensation

Functional diagrams of operational amplifiers.



Burn-in and operating life-test circuit for CA741, CA747, CA748, and CA1558.