

### 1.1 Scope.

This specification covers the detail requirement for a dual, high speed, current feedback operational amplifier. It is highly recommended that this data sheet be used as a baseline for new military or aerospace specification control drawings.

### 1.2 Part Number.

The complete part numbers per Table 1 of this specification is as follows:

Device	Part Number	Package
-1	OP-260AJ/883	J
-1	OP-260ARC/883	RC
-1	OP-260AZ/883	Z

### 1.2.3 Case Outline.

**Letter Case Outline (Lead Finish Per MIL-M-38510)**

J	8-Lead Metal Can (TO-99)
RC	20-Pin Leadless Chip Carrier (LCC)
Z	8-Lead Ceramic Dual-In-Line Package (Cerdip)

### 1.3 Absolute Maximum Ratings. ( $T_A = +25^\circ\text{C}$ unless otherwise noted)

Supply Voltage	$\pm 18\text{ V}$
Input Voltage	Supply Voltage
Differential Input Voltage	$\pm 1\text{ V}$
Inverting Input Current	$\pm 7\text{ mA}$ Continuous $\pm 20\text{ mA}$ Peak
Output Short-Circuit Duration	10 Seconds
Storage Temperature Range	$-65^\circ\text{C}$ to $+150^\circ\text{C}$
Operating Temperature Range	$-55^\circ\text{C} \leq T_A \leq +125^\circ\text{C}$
Lead Temperature Range (Soldering 60 sec)	$+300^\circ\text{C}$
Maximum Junction Temperature ( $T_J$ )	$+175^\circ\text{C}$

### 1.5 Thermal Characteristics.

Thermal Resistance, TO-99 (J) Package:

- Junction-to-Case ( $\theta_{JC}$ ) =  $16^\circ\text{C}/\text{W}$  max
- Junction-to-Ambient ( $\theta_{JA}$ ) =  $145^\circ\text{C}/\text{W}$  max

Thermal Resistance, LCC (RC) Package:

- Junction-to-Case ( $\theta_{JC}$ ) =  $33^\circ\text{C}/\text{W}$  max
- Junction-to-Ambient ( $\theta_{JA}$ ) =  $88^\circ\text{C}/\text{W}$  max

Thermal Resistance Cerdip (Z) Package:

- Junction-to-Case ( $\theta_{JC}$ ) =  $12^\circ\text{C}/\text{W}$  max
- Junction-to-Ambient ( $\theta_{JA}$ ) =  $134^\circ\text{C}/\text{W}$  max

# OP-260 — SPECIFICATIONS

Table 1.

Characteristics	Symbol	Limits A		Group A Subgroup	Test Condition <sup>1</sup>	Units
		Min	Max			
Input Offset Voltage	$V_{IOS}$		3.5	1	$T_A = +25^\circ\text{C}$	mV
			6.0	2, 3	$T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
Input Bias Current	$I_{B+}$		1.0	1	$T_A = +25^\circ\text{C}$	$\mu\text{A}$
			2.0	2, 3	$T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
	$I_{B-}$		8.0	1	$T_A = +25^\circ\text{C}$	$\mu\text{A}$
			12.0	2, 3	$T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
Input Bias Current Common-Mode Rejection Ratio	$CMRRI_{B-}$		0.1	1	$V_{CM} = \pm 11\text{ V}; T_A = +25^\circ\text{C}$	$\mu\text{A/V}$
			0.2	2, 3	$V_{CM} = \pm 11\text{ V}; T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
Input Bias Current Power Supply Rejection Ratio	$PSRRI_{B-}$		0.1	1	$V_S = \pm 9\text{ V}, \pm 18\text{ V}; T_A = +25^\circ\text{C}$	$\mu\text{A/V}$
			0.2	2, 3	$V_S = \pm 9\text{ V}, \pm 18\text{ V}; T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
	$PSRRI_{B+}$		0.02	1	$V_S = \pm 9\text{ V}, \pm 18\text{ V}; T_A = +25^\circ\text{C}$	$\mu\text{A/V}$
			0.05	2, 3	$V_S = \pm 9\text{ V}, \pm 18\text{ V}; T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
Common-Mode Rejection	CMR	56		1	$V_{CM} = \pm 11\text{ V}; T_A = +25^\circ\text{C}$	dB
		52		2, 3	$V_{CM} = \pm 11\text{ V}; T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
Power Supply Rejection	PSR	66		1	$V_S = \pm 9\text{ V}, \pm 18\text{ V}; T_A = +25^\circ\text{C}$	dB
		62		2, 3	$V_S = \pm 9\text{ V}, \pm 18\text{ V}; T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
Input Voltage Range <sup>2</sup>	IVR	$\pm 11$		1	$T_A = +25^\circ\text{C}$	V
		$\pm 10$		2, 3	$T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
Output Voltage Swing	$V_O$	$\pm 12$		4	$R_L = 1\text{ k}\Omega; T_A = +25^\circ\text{C}$	V
		$\pm 11.5$		5, 6	$R_L = 1\text{ k}\Omega; T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
		$\pm 11$		4	$I_{OUT} = \pm 20\text{ mA}; T_A = +25^\circ\text{C}$	V
		$\pm 10.5$		5, 6	$I_{OUT} = \pm 20\text{ mA}; T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
Open-Loop Transimpedance	$R_T$	5		4	$V_O = \pm 10\text{ V}; R_L = 1\text{ k}\Omega; T_A = +25^\circ\text{C}$	M $\Omega$
		3		5, 6	$V_O = \pm 10\text{ V}; R_L = 1\text{ k}\Omega; T_A = -55^\circ\text{C}, +125^\circ\text{C}$	
Slew Rate (J & RC) Package (Z) Package	SR	375		7	$A_{VCL} = +10, R_L = 1\text{ k}\Omega; T_A = +25^\circ\text{C}$	V/ $\mu\text{s}$
		300			$V_O = \pm 10\text{ V}, \text{Test at } V_O = \pm 5\text{ V}$	
Supply Current <sup>3</sup>	$I_{SY}$		10.5	1	No Load; $T_A = +25^\circ\text{C}$	mA
			11.5	2, 3	No Load; $T_A = -55^\circ\text{C}, +125^\circ\text{C}$	

NOTES

<sup>1</sup> $V_S = \pm 15\text{ V}, V_{CM} = 0\text{ V}, R_F = 2.5\text{ k}\Omega, R_S = 50\ \Omega$  unless otherwise specified.

<sup>2</sup>Input Voltage Range is guaranteed by common-mode rejection CMR test.

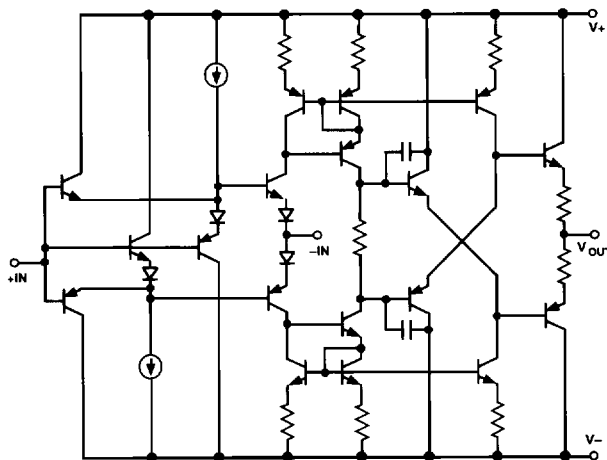
<sup>3</sup> $I_{SY}$  limit = total for both amplifiers.

Table 2. Electrical Test Requirements for Class B Devices

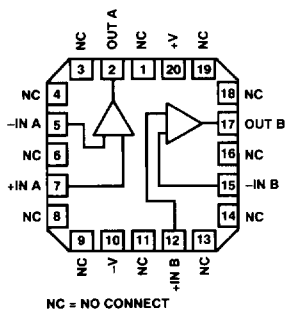
MIL-STD-883 Test Requirements	Subgroups (See Table 1)
Interim Electrical Parameters (Pre-Burn-In)	1
Final Electrical Test Parameters	1,* 2, 3, 4, 5, 6
Group A Test Requirements	1, 2, 3, 4, 5, 6, 7

\*PDA applies to Subgroup 1 only. No other subgroups are included in PDA.

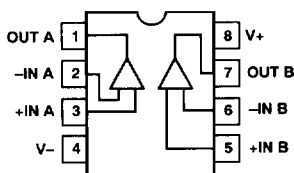
3.2.1 Functional Block Diagram and Terminal Assignments.



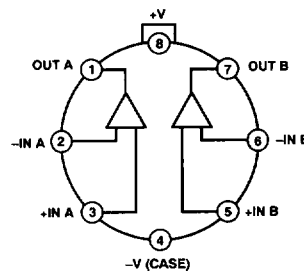
20-Position LCC  
(RC Suffix)



Cerdip  
(Z Suffix)



TO-99  
(J Suffix)

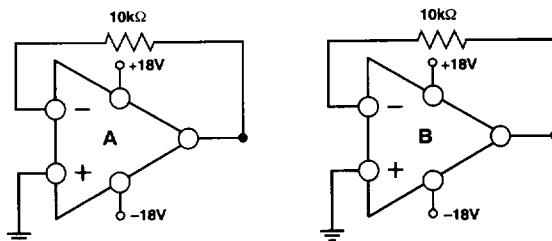


3.2.4. Microcircuit Technology Group.

This microcircuit is covered by technology group (49).

4.2. Life Test/Burn-In Circuit.

Steady state life test is per MIL-STD-883 Method 1005. Burn-in is per MIL-STD-883 Method 1015 test condition (B).



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