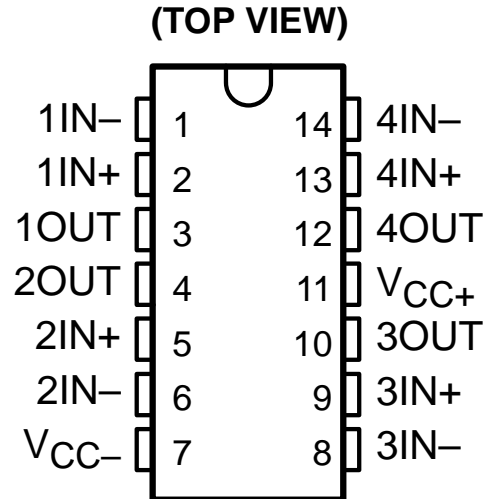


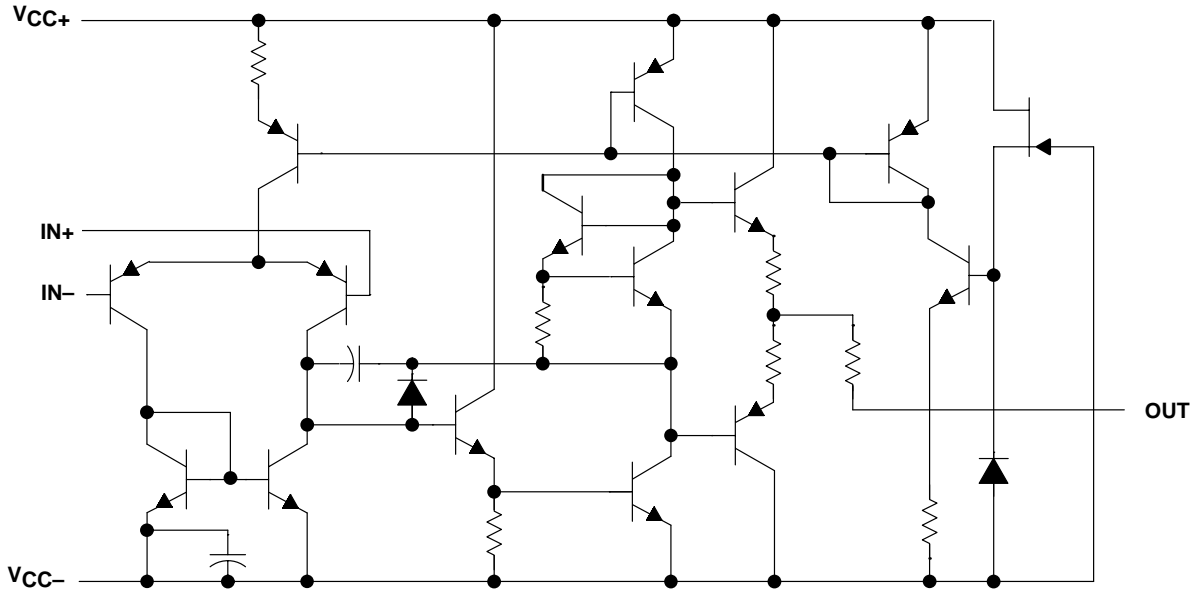
- **Continuous Short-Circuit Protection**
- **Wide Common-Mode and Differential Voltage Ranges**
- **No Frequency Compensation Required**
- **Low Power Consumption**
- **No Latch-Up**
- **Unity-Gain Bandwidth . . . 3 MHz Typ**
- **Gain and Phase Match Between Amplifiers**
- **Designed To Be Interchangeable With Raytheon XD4136**
- **Low Noise . . . 8 nV $\sqrt{\text{Hz}}$  Typ at 1 kHz**

**description**

XD4136 are quad general-purpose operational amplifiers, with each amplifier electrically similar to the XD741, except that offset null capability is not provided. The high common-mode input voltage range and the absence of latch-up make these amplifiers ideal for voltage-follower applications. The devices are short-circuit protected and the internal frequency compensation ensures stability without external components. The XD4136 is characterized for operation from 0°C to 70°C,



**schematic (each amplifier)**



**absolute maximum ratings over operating free-air temperature range (unless otherwise noted)†**

Supply voltage (see Note 1): $V_{CC+}$ , XD4136 .....	18 V
$V_{CC-}$ , XD4136 .....	-18 V
Differential input voltage, $V_{ID}$ (see Note 2) .....	$\pm 30$ V
Input voltage, $V_I$ (any input) (see Notes 1 and 3) .....	$\pm 15$ V
Duration of output short circuit to ground, one amplifier at a time (see Note 4) .....	Unlimited
Continuous total dissipation .....	See Dissipation Rating Table
Package thermal impedance, $\theta_{JA}$ (see Note 5): N package .....	80°C/W
Case temperature for 60 seconds: FK package .....	260°C
Lead temperature 1,6 mm (1/16 inch) from case for 10 seconds: D or N package .....	260°C
Storage temperature range, $T_{stg}$ .....	-65°C to 150°C

† Stresses beyond those listed under “absolute maximum ratings” may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under “recommended operating conditions” is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

- NOTES: 1. All voltage values, unless otherwise noted, are with respect to the midpoint between  $V_{CC+}$  and  $V_{CC-}$ .
2. Differential voltages are at  $IN+$  with respect to  $IN-$ .
3. The magnitude of the input voltage must never exceed the magnitude of the supply voltage or 15 V, whichever is less.
4. Temperature and/or supply voltages must be limited to ensure that the dissipation rating is not exceeded.
5. The package thermal impedance is calculated in accordance with JESD 51-7.

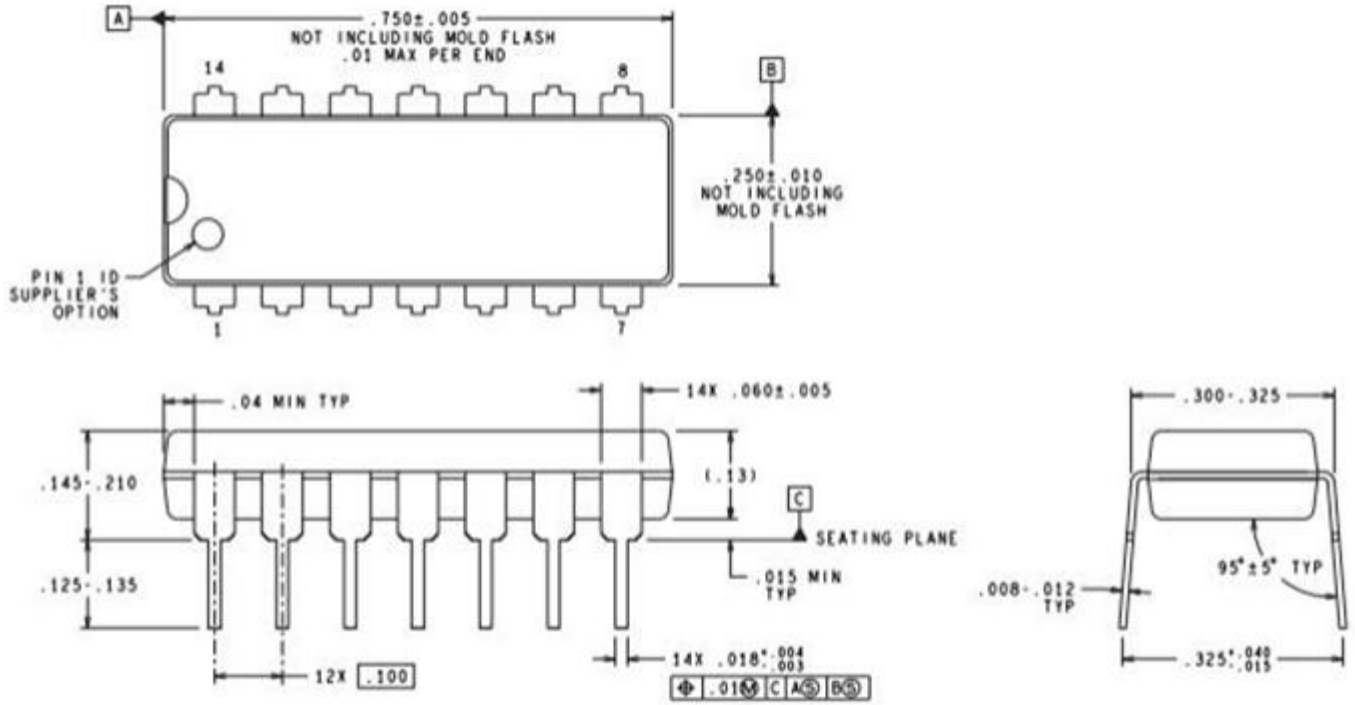
## recommended operating conditions

		MIN	MAX	UNIT
$V_{CC+}$	Supply voltage	5	15	V
$V_{CC-}$	Supply voltage	-5	-15	V

## electrical characteristics at specified free-air temperature, $V_{CC+} = 15\text{ V}$ , $V_{CC-} = -15\text{ V}$

PARAMETER	TEST CONDITIONS†	XD4136			UNIT	
		MIN	TYP	MAX		
$V_{IL}$	Input offset voltage $V_O = 0$	25°C	0.5	6	mV	
		Full range	7.5			
$I_{IO}$	Input offset current $V_O = 0$	25°C	5	200	nA	
		Full range	300			
$I_{IB}$	Input bias current $V_O = 0$	25°C	140	500	nA	
		Full range	800			
$V_i$	Input voltage range	25°C	±12	±14	V	
$V_{OM}$	Maximum peak output voltage swing	$R_L = 10\text{ k}\Omega$	25°C	±12	±14	V
		$R_L = 2\text{ k}\Omega$	25°C	±10	±13	
		$R_L \geq 2\text{ k}\Omega$	Full range	±10		
$A_{VD}$	Large-signal differential voltage amplification $V_O = \pm 10\text{ V}$ , $R_L \geq 2\text{ k}\Omega$	25°C	20	300	V/mV	
		Full range	15			
$B_1$	Unity-gain bandwidth	25°C	3		MHz	
$r_i$	Input resistance	25°C	0.3*	5	M $\Omega$	
CMRR	Common-mode rejection ratio $V_O = 0$ , $R_S = 50\ \Omega$	25°C	70	90	dB	
$k_{SVS}$	Supply-voltage sensitivity ( $\Delta V_{IO}/\Delta V_{CC}$ ) $V_{CC} = \pm 9\text{ V to } \pm 15\text{ V}$ , $V_O = 0$	25°C	30	150	$\mu\text{V/V}$	
$V_n$	Equivalent input noise voltage (closed loop) $A_{VD} = 100$ , $BW = 1\text{ Hz}$ , $f = 1\text{ kHz}$ , $R_S = 100\ \Omega$	25°C	8		$\text{nV}\sqrt{\text{Hz}}$	
$I_{CC}$	Supply current (all four amplifiers) $V_O = 0$ , No load	25°C	5	11.3	mA	
		MIN $T_A$	6	13.7		
		MAX $T_A$	4.5	10		
$P_D$	Total power dissipation (all four amplifiers) $V_O = 0$ , No load	25°C	150	340	mW	
		MIN $T_A$	180	400		
		MAX $T_A$	135	300		
	Crosstalk attenuation ( $V_{O1}/V_{O2}$ ) $A_{VD} = 100$ , $f = 10\text{ kHz}$ , $R_S = 1\text{ k}\Omega$	25°C	105		dB	

# DIP14



以上信息仅供参考. 如需帮助联系客服人员. 谢谢 XINLUDA