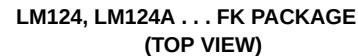


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- LM124 . . . D, J, OR W PACKAGE
LM124A . . . J OR W PACKAGE
LM224, LM224A, LM224K, LM224KA . . . D OR N PACKAGE
LM324, LM324K . . . D, N, NS, OR PW PACKAGE
LM324A . . . D, DB, N, NS, OR PW PACKAGE
LM324KA . . . D, N, NS, OR PW PACKAGE
LM2902 . . . D, N, NS, OR PW PACKAGE
LM2902K . . . D, DB, N, NS, OR PW PACKAGE
LM2902KV, LM2902KAV . . . D OR PW PACKAGE
(TOP VIEW)



Applications include transducer amplifiers, dc amplification blocks, and all the conventional operational-amplifier circuits that now can be more easily implemented in single-supply-voltage systems. For example, the LM124 can be operated directly from the standard 5-V supply that is used in digital systems and provides the required interface electronics, without requiring additional $\pm 15\text{-V}$ supplies.

LM124, LM124A, LM224, LM224A, LM324, LM324A, LM2902, LM2902V, LM224K, LM224KA, LM324K, LM324KA, LM2902K, LM2902KV, LM2902KAV QUADRUPLE OPERATIONAL AMPLIFIERS

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ORDERING INFORMATION[†]

T _A	V _{IO} max AT 25°C	MAX TESTED V _{CC}	PACKAGE [‡]		ORDERABLE PART NUMBER	TOP-SIDE MARKING
0°C to 70°C	7 mV	30 V	PDIP (N)	Tube of 25	LM324N	LM324N
					LM324KN	LM324KN
			SOIC (D)	Tube of 50	LM324D	LM324
				Reel of 2500	LM324DR	
				Reel of 2500	LM324DRG3	
				Tube of 50	LM324KD	LM324K
				Reel of 2500	LM324KDR	
			SOP (NS)	Reel of 2000	LM324NSR	LM324
				Tube of 50	LM324KNS	LM324K
				Reel of 2000	LM324KNSR	
			TSSOP (PW)	Tube of 90	LM324PW	L324
				Reel of 2000	LM324PWR	
				Tube of 90	LM324KPW	L324K
				Reel of 2000	LM324KPWR	
	3 mV	30 V	PDIP (N)	Tube of 25	LM324AN	LM324AN
				Tube of 25	LM324KAN	LM324KAN
			SOIC (D)	Tube of 50	LM324AD	LM324A
				Reel of 2500	LM324ADR	
				Tube of 50	LM324KAD	LM324KA
				Reel of 2500	LM324KADR	
			SOP (NS)	Reel of 2000	LM324ANSR	LM324A
				Tube of 50	LM324KANS	LM324KA
				Reel of 2000	LM324KANSR	
			SSOP (DB)	Reel of 2000	LM324ADBR	LM324A
			TSSOP (PW)	Tube of 90	LM324APW	L324A
				Reel of 2000	LM324APWR	
				Tube of 90	LM324KAPW	L324KA
				Reel of 2000	LM324KAPWR	
–25°C to 85°C	5 mV	30 V	PDIP (N)	Tube of 25	LM224N	LM224N
					LM224KN	LM224KN
			SOIC (D)	Tube of 50	LM224D	LM224
				Reel of 2500	LM224DR	
				Tube of 50	LM224KD	LM224K
				Reel of 2500	LM224KDR	
	3 mV	30 V	PDIP (N)	Tube of 25	LM224AN	LM224AN
				Tube of 25	LM224KAN	LM224KAN
			SOIC (D)	Tube of 50	LM224AD	LM224A
				Reel of 2500	LM224ADR	
				Tube of 50	LM224KAD	LM224KA
				Reel of 2500	LM224KADR	

[†] For the most current package and ordering information, see the Package Option Addendum at the end of this document, or see the TI web site at www.ti.com.

[‡] Package drawings, thermal data, and symbolization are available at www.ti.com/packaging.



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**LM124, LM124A, LM224, LM224A, LM324, LM324A, LM2902, LM2902V,
LM224K, LM224KA, LM324K, LM324KA, LM2902K, LM2902KV, LM2902KAV
QUADRUPLE OPERATIONAL AMPLIFIERS**

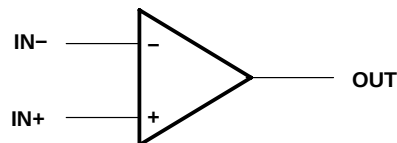
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ORDERING INFORMATION (CONTINUED)

T_A	V_{IOmax} AT 25°C	MAX TESTED V_{CC}	PACKAGE†		ORDERABLE PART NUMBER	TOP-SIDE MARKING
–40°C to 125°C	7 mV	26 V	PDIP (N)	Tube of 25	LM2902N	LM2902N
				Tube of 25	LM2902KN	LM2902KN
			SOIC (D)	Tube of 50	LM2902D	LM2902
				Reel of 2500	LM2902DR	
				Tube of 50	LM2902KD	LM2902K
				Reel of 2500	LM2902KDR	
			SOP (NS)	Reel of 2000	LM2902NSR	LM2902
				Tube of 50	LM2902KNS	LM2902K
				Reel of 2000	LM2902KNSR	
			SSOP (DB)	Tube of 80	LM2902KDB	L2902K
				Reel of 2000	LM2902KDBR	
			TSSOP (PW)	Tube of 90	LM2902PW	L2902
				Reel of 2000	LM2902PWR	
				Tube of 90	LM2902KPW	L2902K
				Reel of 2000	LM2902KPWR	
	2 mV	32 V	SOIC (D)	Reel of 2500	LM2902KVQDR	L2902KV
			TSSOP (PW)	Reel of 2000	LM2902KVQPWR	L2902KV
		32 V	SOIC (D)	Reel of 2500	LM2902KAVQDR	L2902KA
			TSSOP (PW)	Reel of 2000	LM2902KAVQPWR	L2902KA
–55°C to 125°C	5 mV	30 V	CDIP (J)	Tube of 25	LM124J	LM124J
			CFP (W)	Tube of 25	LM124W	LM124W
			LCCC (FK)	Tube of 55	LM124FK	LM124FK
			SOIC (D)	Tube of 50	LM124D	LM124
				Reel of 2500	LM124DR	
	2 mV	30 V	CDIP (J)	Tube of 25	LM124AJ	LM124AJ
			CFP (W)	Tube of 25	LM124AW	LM124AW
			LCCC (FK)	Tube of 55	LM124AFK	LM124AFK

† Package drawings, standard packing quantities, thermal data, symbolization, and PCB design guidelines are available at www.ti.com/sc/package.

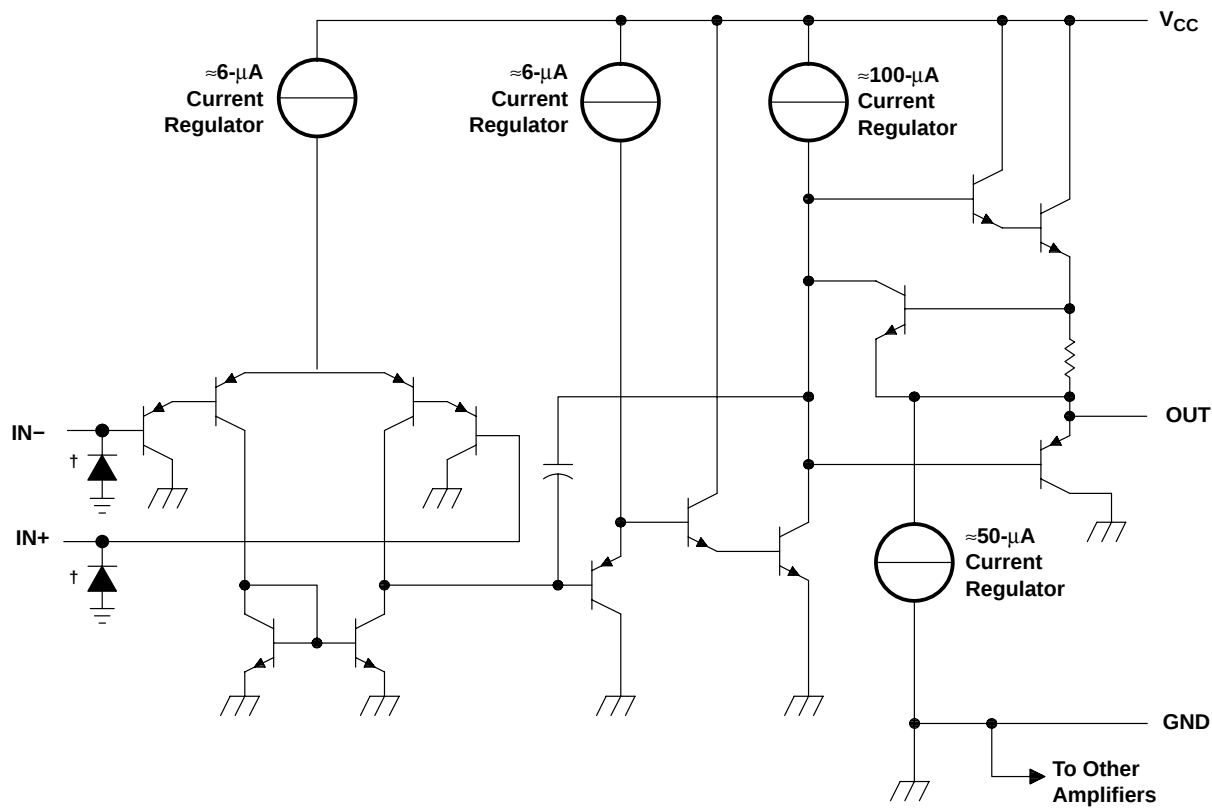
symbol (each amplifier)



LM124, LM124A, LM224, LM224A, LM324, LM324A, LM2902, LM2902V,
LM224K, LM224KA, LM324K, LM324KA, LM2902K, LM2902KV, LM2902KAV
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schematic (each amplifier)



COMPONENT COUNT (total device)	
Epi-FET	1
Transistors	95
Diodes	4
Resistors	11
Capacitors	4

† ESD protection cells - available on LM324K and LM324KA only

**LM124, LM124A, LM224, LM224A, LM324, LM324A, LM2902, LM2902V,
LM224K, LM224KA, LM324K, LM324KA, LM2902K, LM2902KV, LM2902KAV
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absolute maximum ratings over operating free-air temperature range (unless otherwise noted)[†]

		LM2902	ALL OTHER DEVICES	UNIT
Supply voltage, V_{CC} (see Note 1)		± 13 or 26	± 16 or 32	V
Differential input voltage, V_{ID} (see Note 2)		± 26	± 32	V
Input voltage, V_I (either input)		-0.3 to 26	-0.3 to 32	V
Duration of output short circuit (one amplifier) to ground at (or below) $T_A = 25^\circ\text{C}$, $V_{CC} \leq 15$ V (see Note 3)		Unlimited	Unlimited	
Package thermal impedance, θ_{JA} (see Notes 4 and 5)	D package	86	86	$^\circ\text{C/W}$
	DB package	96	96	
	N package	80	80	
	NS package	76	76	
	PW package	113	113	
Package thermal impedance, θ_{JC} (see Notes 6 and 7)	FK package		5.61	$^\circ\text{C/W}$
	J package		15.05	
	W package		14.65	
Operating virtual junction temperature, T_J		150	150	$^\circ\text{C}$
Case temperature for 60 seconds	FK package		260	$^\circ\text{C}$
Lead temperature 1.6 mm (1/16 inch) from case for 60 seconds	J or W package	300	300	$^\circ\text{C}$
Storage temperature range, T_{stg}		-65 to 150	-65 to 150	$^\circ\text{C}$

[†] 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 (except differential voltages and V_{CC} specified for the measurement of I_{OS}) are with respect to the network GND.
 2. Differential voltages are at $IN+$, with respect to $IN-$.
 3. Short circuits from outputs to V_{CC} can cause excessive heating and eventual destruction.
 4. Maximum power dissipation is a function of $T_J(\text{max})$, θ_{JA} , and T_A . The maximum allowable power dissipation at any allowable ambient temperature is $P_D = (T_J(\text{max}) - T_A)/\theta_{JA}$. Operating at the absolute maximum T_J of 150°C can affect reliability.
 5. The package thermal impedance is calculated in accordance with JESD 51-7.
 6. Maximum power dissipation is a function of $T_J(\text{max})$, θ_{JC} , and T_C . The maximum allowable power dissipation at any allowable case temperature is $P_D = (T_J(\text{max}) - T_C)/\theta_{JC}$. Operating at the absolute maximum T_J of 150°C can affect reliability.
 7. The package thermal impedance is calculated in accordance with MIL-STD-883.

ESD protection

TEST CONDITIONS		TYP	UNIT
Human-Body Model	LM224K, LM224KA, LM324K, LM324KA, LM2902K, LM2902KV, LM2902KAV	± 2	kV



LM124, LM124A, LM224, LM224A, LM324, LM324A, LM2902, LM2902V, LM224K, LM224KA, LM324K, LM324KA, LM2902K, LM2902KV, LM2902KAV QUADRUPLE OPERATIONAL AMPLIFIERS

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electrical characteristics at specified free-air temperature, $V_{CC} = 5\text{ V}$ (unless otherwise noted)

PARAMETER			TEST CONDITIONS†	T _A ‡	LM124 LM224			LM324 LM324K			UNIT
					MIN	TYP§	MAX	MIN	TYP§	MAX	
V _{IO}	Input offset voltage	V _{CC} = 5 V to MAX, V _{IC} = V _{ICRmin} , V _O = 1.4 V		25°C	3	5		3	7	mV	
				Full range		7			9		
I _{IO}	Input offset current	V _O = 1.4 V		25°C	2	30		2	50	nA	
				Full range		100			150		
I _{IB}	Input bias current	V _O = 1.4 V		25°C	–20	–150		–20	–250	nA	
				Full range		–300			–500		
V _{ICR}	Common-mode input voltage range	V _{CC} = 5 V to MAX		25°C	0 to V _{CC} – 1.5		0 to V _{CC} – 1.5		V		
				Full range	0 to V _{CC} – 2		0 to V _{CC} – 2				
V _{OH}	High-level output voltage	R _L = 2 kΩ		25°C	V _{CC} – 1.5		V _{CC} – 1.5		V		
		R _L = 10 kΩ		25°C							
		V _{CC} = MAX	R _L = 2 kΩ	Full range	26		26				
			R _L ≥ 10 kΩ	Full range	27	28	27	28			
V _{OL}	Low-level output voltage	R _L ≤ 10 kΩ		Full range	5	20	5	20	mV		
A _{VD}	Large-signal differential voltage amplification	V _{CC} = 15 V, V _O = 1 V to 11 V, R _L ≥ 2 kΩ		25°C	50	100	25	100	V/mV		
				Full range	25		15				
CMRR	Common-mode rejection ratio	V _{IC} = V _{ICRmin}		25°C	70	80	65	80	dB		
k _{SVR}	Supply-voltage rejection ratio (ΔV _{CC} /ΔV _{IO})			25°C	65	100	65	100	dB		
V _{O1} /V _{O2}	Crosstalk attenuation	f = 1 kHz to 20 kHz		25°C	120		120		dB		
I _O	Output current	V _{CC} = 15 V, V _{ID} = 1 V, V _O = 0	Source	25°C	–20	–30	–60	–20	–30	–60	mA
				Full range	–10			–10			
		V _{CC} = 15 V, V _{ID} = –1 V, V _O = 15 V	Sink	25°C	10	20		10	20		
				Full range	5			5			
		V _{ID} = –1 V, V _O = 200 mV	25°C	12	30		12	30		μA	
I _{OS}	Short-circuit output current	V _{CC} at 5 V, V _O = 0, GND at –5 V	25°C		±40	±60	±40	±60	mA		
I _{CC}	Supply current (four amplifiers)	V _O = 2.5 V, No load	Full range		0.7	1.2	0.7	1.2	mA		
		V _{CC} = MAX, V _O = 0.5 V _{CC} , No load	Full range		1.4	3	1.4	3			

† All characteristics are measured under open-loop conditions, with zero common-mode input voltage, unless otherwise specified. MAX V_{CC} for testing purposes is 26 V for LM2902 and 30 V for the others.

‡ Full range is –55°C to 125°C for LM124, –25°C to 85°C for LM224, and 0°C to 70°C for LM324.

§ All typical values are at $T_A = 25^\circ\text{C}$.

**LM124, LM124A, LM224, LM224A, LM324, LM324A, LM2902, LM2902V,
LM224K, LM224KA, LM324K, LM324KA, LM2902K, LM2902KV, LM2902KAV
QUADRUPLE OPERATIONAL AMPLIFIERS**

SLOS066T – SEPTEMBER 1975 – REVISED MARCH 2010

electrical characteristics at specified free-air temperature, $V_{CC} = 5\text{ V}$ (unless otherwise noted)

PARAMETER		TEST CONDITIONS†		T _A ‡	LM2902			LM2902V			UNIT
					MIN	TYP§	MAX	MIN	TYP§	MAX	
V _{IO}	Input offset voltage	V _{CC} = 5 V to MAX, V _{IC} = V _{ICR} min, V _O = 1.4 V	Non-A-suffix devices	25°C	3		7	3		7	mV
				Full range	10		10				
		A-suffix devices	25°C			1		2			
			Full range			4					
ΔV _{IO} /ΔT	Input offset voltage temperature drift	R _S = 0 Ω		Full range				7		μV/°C	
I _{IO}	Input offset current	V _O = 1.4 V		25°C	2	50	2		50	nA	
				Full range	300		150				
ΔI _{IO} /ΔT	Input offset current temperature drift			Full range				10		pA/°C	
I _{IB}	Input bias current	V _O = 1.4 V		25°C	-20	-250	-20		-250	nA	
				Full range	-500		-500				
V _{ICR}	Common-mode input voltage range	V _{CC} = 5 V to MAX		25°C	0 to V _{CC} - 1.5		0 to V _{CC} - 1.5		V		
				Full range	0 to V _{CC} - 2		0 to V _{CC} - 2				
V _{OH}	High-level output voltage	R _L = 2 kΩ		25°C						V	
		R _L = 10 kΩ		25°C	V _{CC} - 1.5		V _{CC} - 1.5				
		V _{CC} = MAX	R _L = 2 kΩ	Full range	22		26				
			R _L ≥ 10 kΩ	Full range	23	24	27				
V _{OL}	Low-level output voltage	R _L ≤ 10 kΩ		Full range	5	20	5		20	mV	
A _{VD}	Large-signal differential voltage amplification	V _{CC} = 15 V, V _O = 1 V to 11 V, R _L ≥ 2 kΩ		25°C	25	100	25		100	V/mV	
				Full range	15		15				
CMRR	Common-mode rejection ratio	V _{IC} = V _{ICR} min		25°C	50	80	60		80	dB	
k _{SVR}	Supply-voltage rejection ratio (ΔV _{CC} /ΔV _{IO})			25°C	50	100	60		100	dB	
V _{O1} /V _{O2}	Crosstalk attenuation	f = 1 kHz to 20 kHz		25°C	120			120		dB	
I _O	Output current	V _{CC} = 15 V, V _{ID} = 1 V, V _O = 0	Source	25°C	-20	-30	-60	-20	-30	-60	mA
				Full range	-10		-10				
		V _{CC} = 15 V, V _{ID} = -1 V, V _O = 15 V	Sink	25°C	10	20	10		20		
				Full range	5		5				
		V _{ID} = -1 V, V _O = 200 mV		25°C	30			12		40	μA
I _{OS}	Short-circuit output current	V _{CC} at 5 V, GND at -5 V	V _O = 0,	25°C	±40	±60	±40		±60	mA	
I _{CC}	Supply current (four amplifiers)	V _O = 2.5 V,	No load	Full range	0.7	1.2	0.7		1.2	mA	
		V _{CC} = MAX, V _O = 0.5 V _{CC} ,	No load	Full range	1.4	3	1.4		3		

† All characteristics are measured under open-loop conditions, with zero common-mode input voltage, unless otherwise specified. MAX V_{CC} for testing purposes is 26 V for LM2902 and 32 V for LM2902V.

‡ Full range is -40°C to 125°C for LM2902.

§ All typical values are at $T_A = 25^\circ\text{C}$.



electrical characteristics at specified free-air temperature, $V_{CC} = 5\text{ V}$ (unless otherwise noted)

PARAMETER			TEST CONDITIONS†		T _A ‡	LM124A			LM224A			LM324A, LM324KA			UNIT
						MIN	TYP§	MAX	MIN	TYP§	MAX	MIN	TYP§	MAX	
V _{IO}	Input offset voltage	V _{CC} = 5 V to 30 V, V _{IC} = V _{ICRmin} , V _O = 1.4 V		25°C	2			2 3			2 3			mV	
				Full range	4			4			5				
I _{IO}	Input offset current	V _O = 1.4 V		25°C	10			2 15			2 30			nA	
				Full range	30			30			75				
I _{IB}	Input bias current	V _O = 1.4 V		25°C	-50			-15 -80			-15 -100			nA	
				Full range	-100			-100			-200				
V _{ICR}	Common-mode input voltage range	V _{CC} = 30 V		25°C	0 to V _{CC} - 1.5			0 to V _{CC} - 1.5			0 to V _{CC} - 1.5			V	
				Full range	0 to V _{CC} - 2			0 to V _{CC} - 2			0 to V _{CC} - 2				
V _{OH}	High-level output voltage	R _L = 2 kΩ		25°C	V _{CC} - 1.5			V _{CC} - 1.5			V _{CC} - 1.5			V	
		V _{CC} = 30 V	R _L = 2 kΩ	Full range	26			26			26				
			R _L ≥ 10 kΩ	Full range	27			27 28			27 28				
V _{OL}	Low-level output voltage	R _L ≤ 10 kΩ		Full range	20			5 20			5 20			mV	
A _{VD}	Large-signal differential voltage amplification	V _{CC} = 15 V, V _O = 1 V to 11 V, R _L ≥ 2 kΩ		25°C	50	100	50	100	25	100	V/mV				
				Full range	25		25		15						
CMRR	Common-mode rejection ratio	V _{IC} = V _{ICRmin}		25°C	70		70	80	65	80	dB				
k _{SVR}	Supply-voltage rejection ratio (ΔV _{CC} /ΔV _{IO})			25°C	65		65	100	65	100	dB				
V _{O1} /V _{O2}	Crosstalk attenuation	f = 1 kHz to 20 kHz		25°C	120			120			120			dB	
I _O	Output current	V _{CC} = 15 V, V _{ID} = 1 V, V _O = 0	Source	25°C	-20			-20	-30	-60	-20	-30	-60	mA	
				Full range	-10			-10							
		V _{CC} = 15 V, V _{ID} = -1 V, V _O = 15 V	Sink	25°C	10			10	20	10	20				
				Full range	5			5		5					
		V _{ID} = -1 V, V _O = 200 mV	25°C	12			12	30	12	30	μA				
I _{OS}	Short-circuit output current	V _{CC} at 5 V, V _O = 0	GND at -5 V,	25°C	±40 ±60			±40 ±60			±40 ±60			mA	
I _{CC}	Supply current (four amplifiers)	V _O = 2.5 V, No load		Full range	0.7	1.2	0.7	1.2	0.7	1.2	mA				
		V _{CC} = 30 V, No load	V _O = 15 V,	Full range	1.4	3	1.4	3	1.4	3					

[†] All characteristics are measured under open-loop conditions, with zero common-mode input voltage, unless otherwise specified.

[‡] Full range is -55°C to 125°C for LM124A, -25°C to 85°C for LM224A, and 0°C to 70°C for LM324A.

[§] All typical values are at $T_A = 25^\circ\text{C}$.

LM124, LM124A, LM224, LM224A, LM324, LM324A, LM2902, LM2902V,
 LM224K, LM224KA, LM324K, LM324KA, LM2902K, LM2902KV, LM2902KAV
 QUADRUPLER OPERATIONAL AMPLIFIERS
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**LM124, LM124A, LM224, LM224A, LM324, LM324A, LM2902, LM2902V,
LM224K, LM224KA, LM324K, LM324KA, LM2902K, LM2902KV, LM2902KAV
QUADRUPLE OPERATIONAL AMPLIFIERS**

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operating conditions, $V_{CC} = \pm 15\text{ V}$, $T_A = 25^\circ\text{C}$

PARAMETER		TEST CONDITIONS	TYP	UNIT
SR	Slew rate at unity gain	$R_L = 1\text{ M}\Omega$, $C_L = 30\text{ pF}$, $V_I = \pm 10\text{ V}$ (see Figure 1)	0.5	$\text{V}/\mu\text{s}$
B_1	Unity-gain bandwidth	$R_L = 1\text{ M}\Omega$, $C_L = 20\text{ pF}$ (see Figure 1)	1.2	MHz
V_n	Equivalent input noise voltage	$R_S = 100\text{ }\Omega$, $V_I = 0\text{ V}$, $f = 1\text{ kHz}$ (see Figure 2)	35	$\text{nV}/\sqrt{\text{Hz}}$

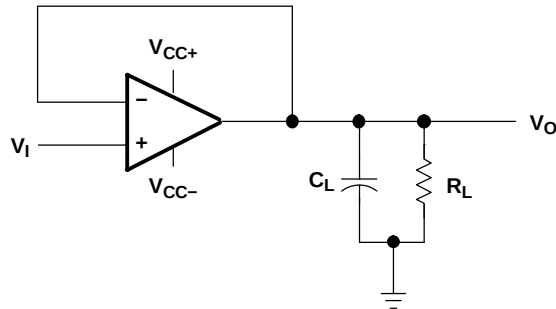


Figure 1. Unity-Gain Amplifier

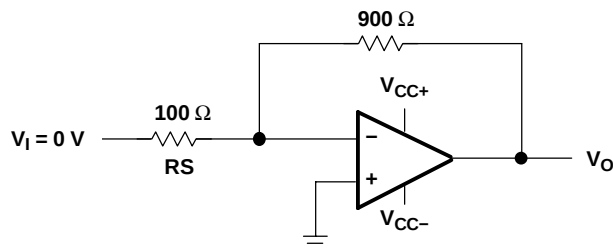
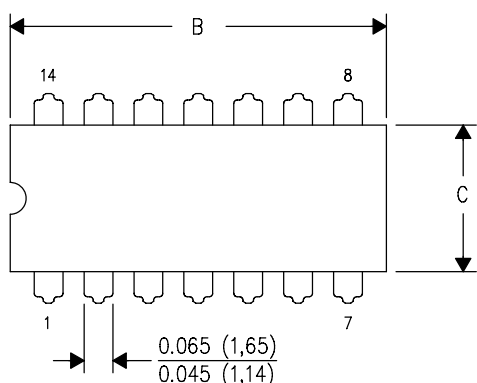


Figure 2. Noise-Test Circuit

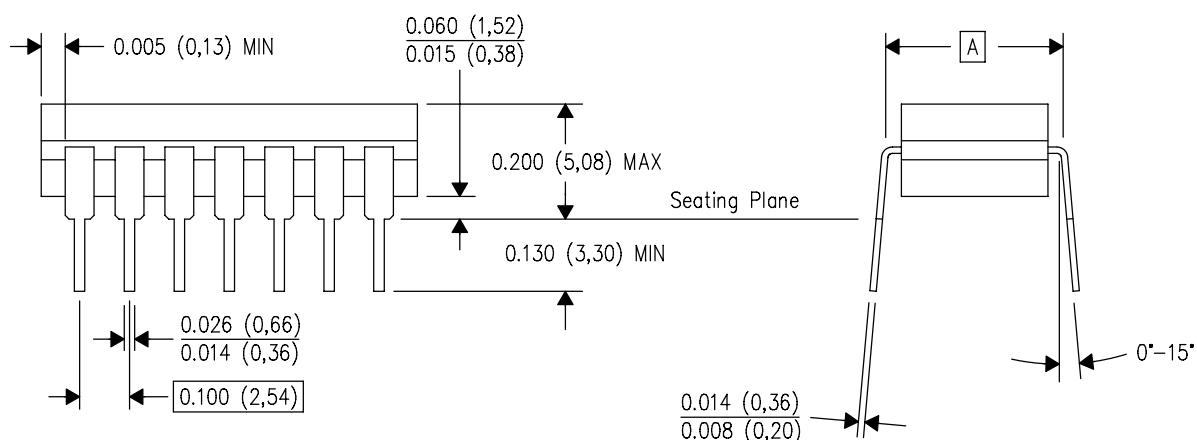
J (R-GDIP-T**)

14 LEADS SHOWN

CERAMIC DUAL IN-LINE PACKAGE



PINS ** DIM	14	16	18	20
A	0.300 (7,62) BSC	0.300 (7,62) BSC	0.300 (7,62) BSC	0.300 (7,62) BSC
B MAX	0.785 (19,94)	.840 (21,34)	0.960 (24,38)	1.060 (26,92)
B MIN	—	—	—	—
C MAX	0.300 (7,62)	0.300 (7,62)	0.310 (7,87)	0.300 (7,62)
C MIN	0.245 (6,22)	0.245 (6,22)	0.220 (5,59)	0.245 (6,22)

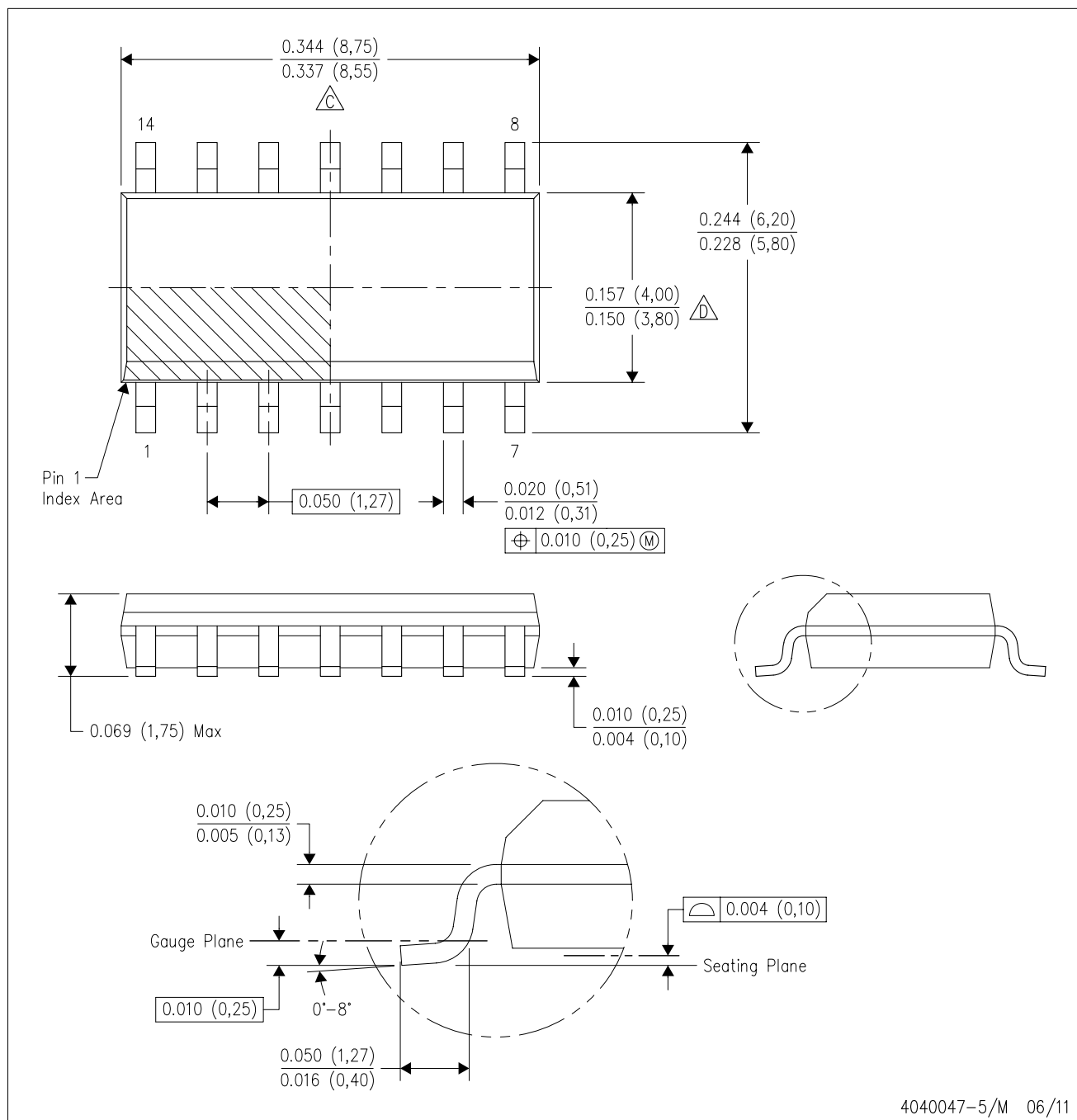


4040083/F 03/03

- NOTES:
- A. All linear dimensions are in inches (millimeters).
 - B. This drawing is subject to change without notice.
 - C. This package is hermetically sealed with a ceramic lid using glass frit.
 - D. Index point is provided on cap for terminal identification only on press ceramic glass frit seal only.
 - E. Falls within MIL STD 1835 GDIP1-T14, GDIP1-T16, GDIP1-T18 and GDIP1-T20.

D (R-PDSO-G14)

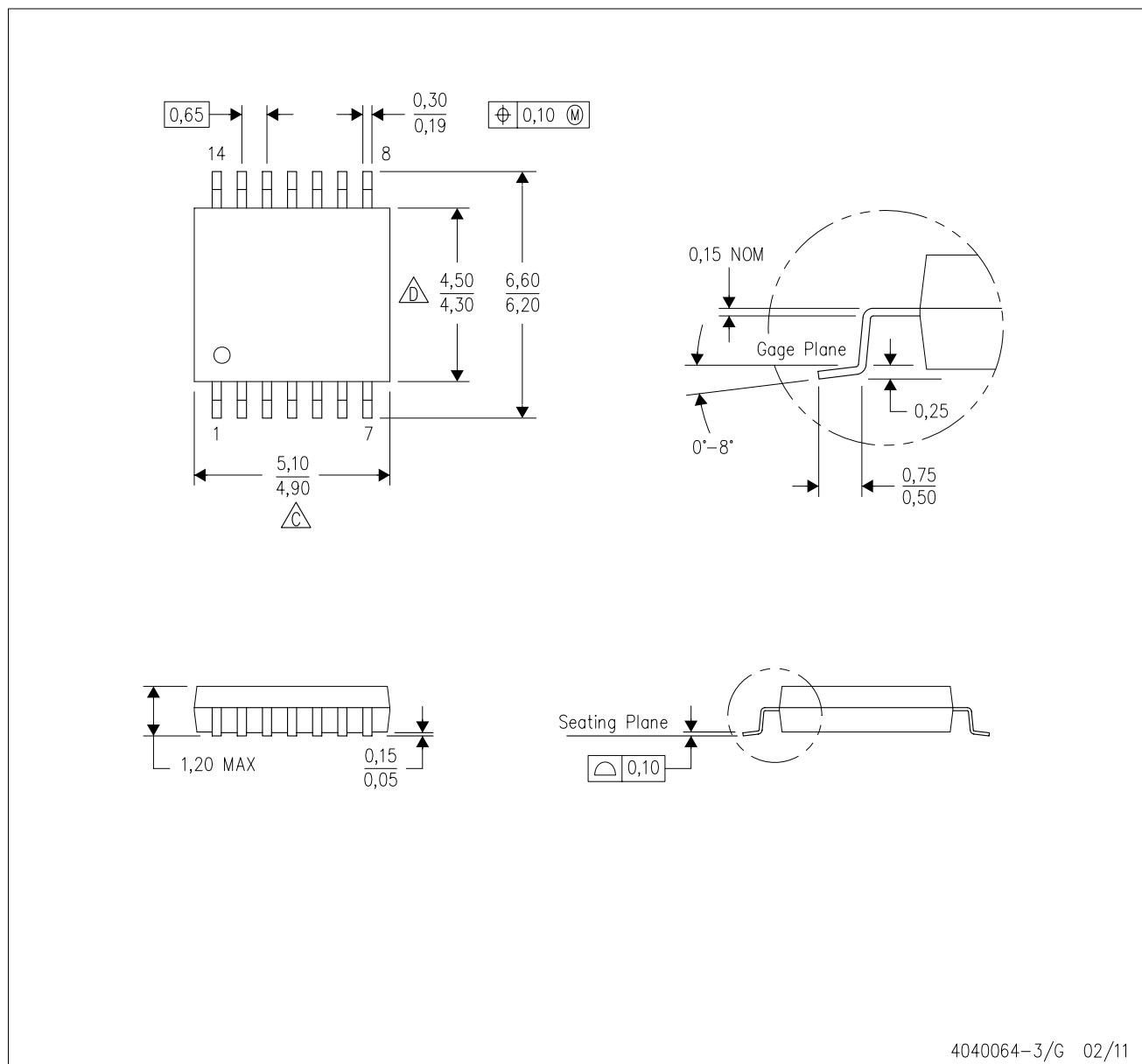
PLASTIC SMALL OUTLINE



NOTES: A. All linear dimensions are in inches (millimeters).
 B. This drawing is subject to change without notice.
 C. Body length does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0.006 (0,15) each side.
 D. Body width does not include interlead flash. Interlead flash shall not exceed 0.017 (0,43) each side.
 E. Reference JEDEC MS-012 variation AB.

PW (R-PDSO-G14)

PLASTIC SMALL OUTLINE



4040064-3/G 02/11

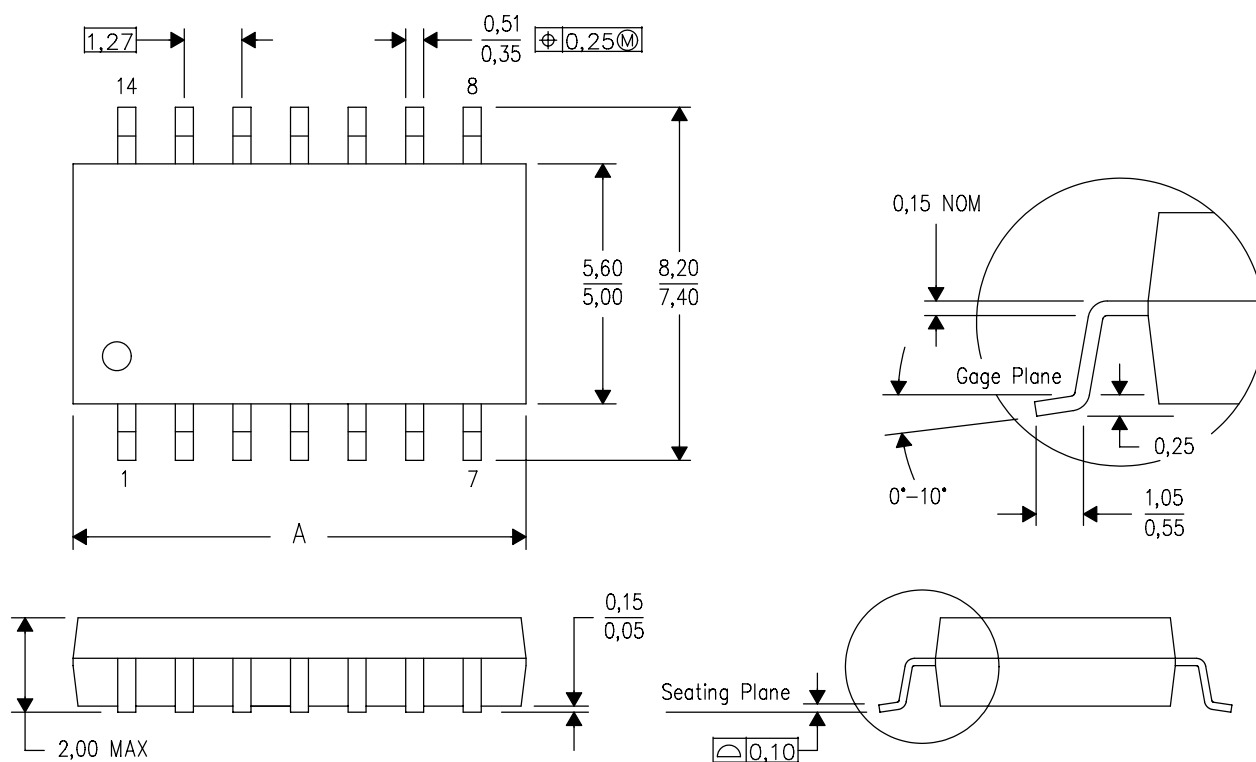
- NOTES:
- A. All linear dimensions are in millimeters. Dimensioning and tolerancing per ASME Y14.5M-1994.
 - B. This drawing is subject to change without notice.
 - C. Body length does not include mold flash, protrusions, or gate burrs. Mold flash, protrusions, or gate burrs shall not exceed 0,15 each side.
 - D. Body width does not include interlead flash. Interlead flash shall not exceed 0,25 each side.
 - E. Falls within JEDEC MO-153

MECHANICAL DATA

NS (R-PDSO-G**)

PLASTIC SMALL-OUTLINE PACKAGE

14-PINS SHOWN



DIM \ PINS **	14	16	20	24
A MAX	10,50	10,50	12,90	15,30
A MIN	9,90	9,90	12,30	14,70

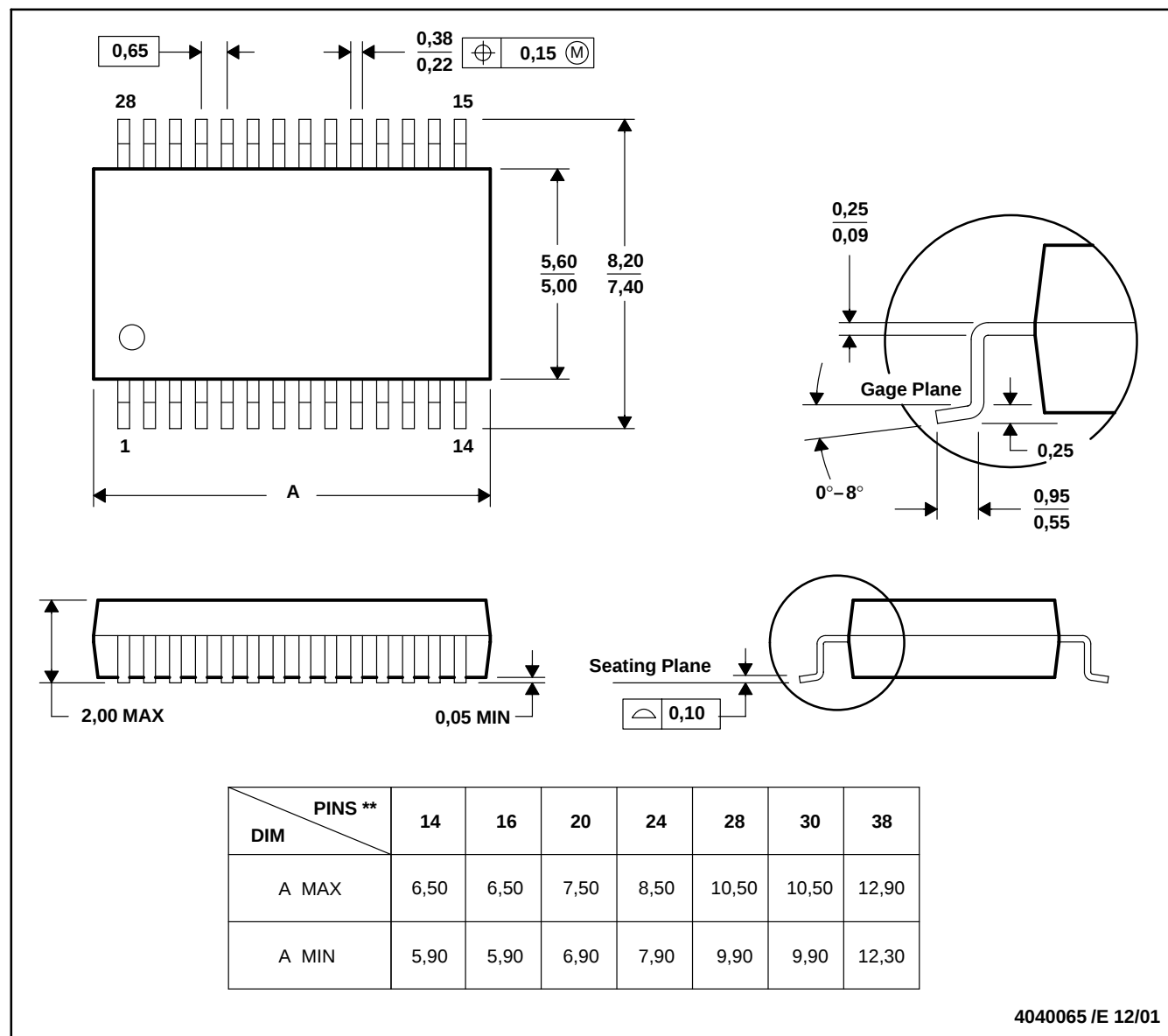
4040062/C 03/03

- NOTES:
- A. All linear dimensions are in millimeters.
 - B. This drawing is subject to change without notice.
 - C. Body dimensions do not include mold flash or protrusion, not to exceed 0,15.

DB (R-PDSO-G**)

PLASTIC SMALL-OUTLINE

28 PINS SHOWN



- NOTES: A. All linear dimensions are in millimeters.
 B. This drawing is subject to change without notice.
 C. Body dimensions do not include mold flash or protrusion not to exceed 0,15.
 D. Falls within JEDEC MO-150