



±15kV ESD-Protected, +5V RS-232 Transceivers

General Description

The MAX202E–MAX213E, MAX232E/MAX241E line drivers/receivers are designed for RS-232 and V.28 communications in harsh environments. Each transmitter output and receiver input is protected against ±15kV electrostatic discharge (ESD) shocks, without latchup. The various combinations of features are outlined in the *Selector Guide*. The drivers and receivers for all ten devices meet all EIA/TIA-232E and CCITT V.28 specifications at data rates up to 120kbps, when loaded in accordance with the EIA/TIA-232E specification.

The MAX211E/MAX213E/MAX241E are available in 28-pin SO packages, as well as a 28-pin SSOP that uses 60% less board space. The MAX202E/MAX232E come in 16-pin TSSOP, narrow SO, wide SO, and DIP packages. The MAX203E comes in a 20-pin DIP/SO package, and needs no external charge-pump capacitors. The MAX205E comes in a 24-pin wide DIP package, and also eliminates external charge-pump capacitors. The MAX206E/MAX207E/MAX208E come in 24-pin SO, SSOP, and narrow DIP packages. The MAX232E/MAX241E operate with four 1μF capacitors, while the MAX202E/MAX206E/MAX207E/MAX208E/MAX211E/MAX213E operate with four 0.1μF capacitors, further reducing cost and board space.

Applications

Notebook, Subnotebook, and Palmtop Computers
Battery-Powered Equipment
Hand-Held Equipment

Next-Generation Device Features

- ◆ **For Low-Voltage Applications**
MAX3222E/MAX3232E/MAX3237E/MAX3241E/
MAX3246E: ±15kV ESD-Protected Down to
10nA, +3.0V to +5.5V, Up to 1Mbps, True RS-232
Transceivers (MAX3246E Available in a UCSP™
Package)
- ◆ **For Low-Power Applications**
MAX3221/MAX3223/MAX3243: 1μA Supply
Current, True +3V to +5.5V RS-232 Transceivers
with Auto-Shutdown™
- ◆ **For Space-Constrained Applications**
MAX3233E/MAX3235E: ±15kV ESD-Protected,
1μA, 250kbps, +3.0V/+5.5V, Dual RS-232
Transceivers with Internal Capacitors
- ◆ **For Low-Voltage or Data Cable Applications**
MAX3380E/MAX3381E: +2.35V to +5.5V, 1μA,
2Tx/2Rx RS-232 Transceivers with ±15kV ESD-
Protected I/O and Logic Pins

Ordering Information

PART	TEMP RANGE	PIN-PACKAGE
MAX202ECPE	0°C to +70°C	16 Plastic DIP
MAX202ECSE	0°C to +70°C	16 Narrow SO

Ordering Information continued at end of data sheet.

Pin Configurations and Typical Operating Circuits appear at end of data sheet.

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Selector Guide

PART	NO. OF RS-232 DRIVERS	NO. OF RS-232 RECEIVERS	RECEIVERS ACTIVE IN SHUTDOWN	NO. OF EXTERNAL CAPACITORS (μF)	LOW-POWER SHUTDOWN	TTL TRI-STATE
MAX202E	2	2	0	4 (0.1)	No	No
MAX203E	2	2	0	None	No	No
MAX205E	5	5	0	None	Yes	Yes
MAX206E	4	3	0	4 (0.1)	Yes	Yes
MAX207E	5	3	0	4 (0.1)	No	No
MAX208E	4	4	0	4 (0.1)	No	No
MAX211E	4	5	0	4 (0.1)	Yes	Yes
MAX213E	4	5	2	4 (0.1)	Yes	Yes
MAX232E	2	2	0	4 (1)	No	No
MAX241E	4	5	0	4 (1)	Yes	Yes



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ABSOLUTE MAXIMUM RATINGS

V _{CC}	-0.3V to +6V	20-Pin Plastic DIP (derate 11.11mW/°C above +70°C)...	889mW
V ₊	(V _{CC} - 0.3V) to +14V	20-Pin SO (derate 10.00mW/°C above +70°C).....	800mW
V ₋	-14V to +0.3V	24-Pin Narrow Plastic DIP	
Input Voltages		(derate 13.33mW/°C above +70°C)	1.07W
T _{IN}	-0.3V to (V ₊ + 0.3V)	24-Pin Wide Plastic DIP	
R _{IN}	±30V	(derate 14.29mW/°C above +70°C).....	1.14W
Output Voltages		24-Pin SO (derate 11.76mW/°C above +70°C).....	941mW
T _{OUT}	(V ₋ - 0.3V) to (V ₊ + 0.3V)	24-Pin SSOP (derate 8.00mW/°C above +70°C)	640mW
R _{OUT}	-0.3V to (V _{CC} + 0.3V)	28-Pin SO (derate 12.50mW/°C above +70°C).....	1W
Short-Circuit Duration, T _{OUT}	Continuous	28-Pin SSOP (derate 9.52mW/°C above +70°C)	762mW
Continuous Power Dissipation (T _A = +70°C)		Operating Temperature Ranges	
16-Pin Plastic DIP (derate 10.53mW/°C above +70°C)....	842mW	MAX2_ <u>EC</u>	0°C to +70°C
16-Pin Narrow SO (derate 8.70mW/°C above +70°C)	696mW	MAX2_ <u>EE</u>	-40°C to +85°C
16-Pin Wide SO (derate 9.52mW/°C above +70°C)	762mW	Storage Temperature Range	-65°C to +165°C
16-Pin TSSOP (derate 9.4mW/°C above +70°C)	755mW	Lead Temperature (soldering, 10s)	+300°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 in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

(V_{CC} = +5V ±10% for MAX202E/206E/208E/211E/213E/232E/241E; V_{CC} = +5V ±5% for MAX203E/205E/207E; C1-C4 = 0.1µF for MAX202E/206E/207E/208E/211E/213E; C1-C4 = 1µF for MAX232E/241E; T_A = T_{MIN} to T_{MAX}; unless otherwise noted. Typical values are at T_A = +25°C.)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS	
DC CHARACTERISTICS							
V _{CC} Supply Current	I _{CC}	No load, T _A = +25°C	MAX202E/203E		8	15	mA
			MAX205E-208E		11	20	
			MAX211E/213E		14	20	
			MAX232E		5	10	
			MAX241E		7	15	
Shutdown Supply Current		T _A = +25°C, Figure 1	MAX205E/206E		1	10	µA
			MAX211E/241E		1	10	
			MAX213E		15	50	
LOGIC							
Input Pullup Current		T _{IN} = 0V (MAX205E-208E/211E/213E/241E)		15	200	µA	
Input Leakage Current		T _{IN} = 0V to V _{CC} (MAX202E/203E/232E)			±10	µA	
Input Threshold Low	V _{IL}	T _{IN} ; EN, $\overline{\text{SHDN}}$ (MAX213E) or $\overline{\text{EN}}$, SHDN (MAX205E-208E/211E/241E)			0.8	V	
Input Threshold High	V _{IH}	T _{IN}	2.0			V	
		EN, $\overline{\text{SHDN}}$ (MAX213E) or $\overline{\text{EN}}$, SHDN (MAX205E-208E/211E/241E)	2.4				
Output-Voltage Low	V _{OL}	R _{OUT} ; I _{OUT} = 3.2mA (MAX202E/203E/232E) or I _{OUT} = 1.6mA (MAX205E/208E/211E/213E/241E)			0.4	V	
Output-Voltage High	V _{OH}	R _{OUT} ; I _{OUT} = -1.0mA	3.5	V _{CC} - 0.4		V	
Output Leakage Current		$\overline{\text{EN}}$ = V _{CC} , EN = 0V, 0V ≤ R _{OUT} ≤ V _{CC} , MAX205E-208E/211E/213E/241E outputs disabled		±0.05	±10	µA	

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MAX202E-MAX213E, MAX232E/MAX241E

ELECTRICAL CHARACTERISTICS (continued)

(V_{CC} = +5V ±10% for MAX202E/206E/208E/211E/213E/232E/241E; V_{CC} = +5V ±5% for MAX203E/205E/207E; C1–C4 = 0.1μF for MAX202E/206E/207E/208E/211E/213E; C1–C4 = 1μF for MAX232E/241E; T_A = T_{MIN} to T_{MAX}; unless otherwise noted. Typical values are at T_A = +25°C.)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
EIA/TIA-232E RECEIVER INPUTS						
Input Voltage Range			-30		30	V
Input Threshold Low		T _A = +25°C, V _{CC} = 5V	All parts, normal operation			V
				0.8	1.2	
			0.6	1.5		
Input Threshold High		T _A = +25°C, V _{CC} = 5V	All parts, normal operation			V
					1.7	
				1.5	2.4	
Input Hysteresis		V _{CC} = 5V, no hysteresis in shutdown	0.2	0.5	1.0	V
Input Resistance		T _A = +25°C, V _{CC} = 5V	3	5	7	kΩ
EIA/TIA-232E TRANSMITTER OUTPUTS						
Output Voltage Swing		All drivers loaded with 3kΩ to ground (Note 1)	±5	±9		V
Output Resistance		V _{CC} = V ₊ = V ₋ = 0V, V _{OUT} = ±2V	300			Ω
Output Short-Circuit Current				±10	±60	mA
TIMING CHARACTERISTICS						
Maximum Data Rate		R _L = 3kΩ to 7kΩ, C _L = 50pF to 1000pF, one transmitter switching	120			kbps
Receiver Propagation Delay	t _{PLHR} , t _{PHLR}	C _L = 150pF	All parts, normal operation			μs
					0.5	
				4	40	
Receiver Output Enable Time		MAX205E/206E/211E/213E/241E normal operation, Figure 2		600		ns
Receiver Output Disable Time		MAX205E/206E/211E/213E/241E normal operation, Figure 2		200		ns
Transmitter Propagation Delay	t _{PLHT} , t _{PHLT}	R _L = 3kΩ, C _L = 2500pF, all transmitters loaded		2		μs
Transition-Region Slew Rate		T _A = +25°C, V _{CC} = 5V, R _L = 3kΩ to 7kΩ, C _L = 50pF to 1000pF, measured from -3V to +3V or +3V to -3V, Figure 3	3	6	30	V/μs
ESD PERFORMANCE: TRANSMITTER OUTPUTS, RECEIVER INPUTS						
ESD-Protection Voltage		Human Body Model		±15		kV
		IEC1000-4-2, Contact Discharge		±8		
		IEC1000-4-2, Air-Gap Discharge		±15		

Note 1: MAX211EE_ _ tested with V_{CC} = +5V ±5%.

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Pin Descriptions

MAX202E/MAX232E

PIN		NAME	FUNCTION
DIP/SO/TSSOP	LCC		
1, 3	2, 4	C1+, C1-	Terminals for Positive Charge-Pump Capacitor
2	3	V+	+2V _{CC} Voltage Generated by the Charge Pump
4, 5	5, 7	C2+, C2-	Terminals for Negative Charge-Pump Capacitor
6	8	V-	-2V _{CC} Voltage Generated by the Charge Pump
7, 14	9, 18	T_OUT	RS-232 Driver Outputs
8, 13	10, 17	R_IN	RS-232 Receiver Inputs
9, 12	12, 15	R_OUT	RS-232 Receiver Outputs
10, 11	13, 14	T_IN	RS-232 Driver Inputs
15	19	GND	Ground
16	20	V _{CC}	+4.5V to +5.5V Supply-Voltage Input
—	1, 6, 11, 16	N.C.	No Connection—Not Internally Connected

MAX203E

PIN		NAME	FUNCTION
DIP	SO		
1, 2	1, 2	T_IN	RS-232 Driver Inputs
3, 20	3, 20	R_OUT	RS-232 Receiver Outputs
4, 19	4, 19	R_IN	RS-232 Receiver Inputs
5, 18	5, 18	T_OUT	RS-232 Transmitter Outputs
6, 9	6, 9	GND	Ground
7	7	V _{CC}	+4.5V to +5.5V Supply-Voltage Input
8	13	C1+	Make no connection to this pin.
10, 16	11, 16	C2-	Connect pins together.
12, 17	10, 17	V-	-2V _{CC} Voltage Generated by the Charge Pump. Connect pins together.
13	14	C1-	Make no connection to this pin.
14	8	V+	+2V _{CC} Voltage Generated by the Charge Pump
11, 15	12, 15	C2+	Connect pins together.

MAX205E

PIN	NAME	FUNCTION
1–4, 19	T_OUT	RS-232 Driver Outputs
5, 10, 13, 18, 24	R_IN	RS-232 Receiver Inputs
6, 9, 14, 17, 23	R_OUT	TTL/CMOS Receiver Outputs. All receivers are inactive in shutdown.
7, 8, 15, 16, 22	T_IN	TTL/CMOS Driver Inputs. Internal pullups to V _{CC} .
11	GND	Ground
12	V _{CC}	+4.75V to +5.25V Supply Voltage
20	EN	Receiver Enable—Active Low
21	SHDN	Shutdown Control—Active High

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Pin Descriptions (continued)

MAX206E

PIN	NAME	FUNCTION
1, 2, 3, 24	T_OUT	RS-232 Driver Outputs
4, 16, 23	R_IN	RS-232 Receiver Inputs
5, 17, 22	R_OUT	TTL/CMOS Receiver Outputs. All receivers are inactive in shutdown.
6, 7, 18, 19	T_IN	TTL/CMOS Driver Inputs. Internal pullups to V _{CC} .
8	GND	Ground
9	V _{CC}	+4.5V to +5.5V Supply Voltage
10, 12	C1+, C1-	Terminals for Positive Charge-Pump Capacitor
11	V+	+2V _{CC} Generated by the Charge Pump
13, 14	C2+, C2-	Terminals for Negative Charge-Pump Capacitor
15	V-	-2V _{CC} Generated by the Charge Pump
20	$\overline{\text{EN}}$	Receiver Enable—Active Low
21	SHDN	Shutdown Control—Active High

MAX207E

PIN	NAME	FUNCTION
1, 2, 3, 20, 24	T_OUT	RS-232 Driver Outputs
4, 16, 23	R_IN	RS-232 Receiver Inputs
5, 17, 22	R_OUT	TTL/CMOS Receiver Outputs. All receivers are inactive in shutdown.
6, 7, 18, 19, 21	T_IN	TTL/CMOS Driver Inputs. Internal pullups to V _{CC} .
8	GND	Ground
9	V _{CC}	+4.75V to +5.25V Supply Voltage
10, 12	C1+, C1-	Terminals for Positive Charge-Pump Capacitor
11	V+	+2V _{CC} Generated by the Charge Pump
13, 14	C2+, C2-	Terminals for Negative Charge-Pump Capacitor
15	V-	-2V _{CC} Generated by the Charge Pump

MAX208E

PIN	NAME	FUNCTION
1, 2, 20, 24	T_OUT	RS-232 Driver Outputs
3, 7, 16, 23	R_IN	RS-232 Receiver Inputs
4, 6, 17, 22	R_OUT	TTL/CMOS Receiver Outputs. All receivers are inactive in shutdown.
5, 18, 19, 21	T_IN	TTL/CMOS Driver Inputs. Internal pullups to V _{CC} .
8	GND	Ground
9	V _{CC}	+4.5V to +5.5V Supply Voltage
10, 12	C1+, C1-	Terminals for Positive Charge-Pump Capacitor
11	V+	+2V _{CC} Generated by the Charge Pump
13, 14	C2+, C2-	Terminals for Negative Charge-Pump Capacitor
15	V-	-2V _{CC} Generated by the Charge Pump

MAX202E-MAX213E, MAX232E/MAX241E

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Pin Descriptions (continued)

MAX211E/MAX213E/MAX241E

PIN	NAME	FUNCTION
1, 2, 3, 28	T_OUT	RS-232 Driver Outputs
4, 9, 18, 23, 27	R_IN	RS-232 Receiver Inputs
5, 8, 19, 22, 26	R_OUT	TTL/CMOS Receiver Outputs. For the MAX213E, receivers R4 and R5 are active in shutdown mode when EN = 1. For the MAX211E and MAX241E, all receivers are inactive in shutdown.
6, 7, 20, 21	T_IN	TTL/CMOS Driver Inputs. Only the MAX211E, MAX213E, and MAX241E have internal pullups to V _{CC} .
10	GND	Ground
11	V _{CC}	+4.5V to +5.5V Supply Voltage
12, 14	C1+, C1-	Terminals for Positive Charge-Pump Capacitor
13	V+	+2V _{CC} Voltage Generated by the Charge Pump
15, 16	C2+, C2-	Terminals for Negative Charge-Pump Capacitor
17	V-	-2V _{CC} Voltage Generated by the Charge Pump
24	$\overline{\text{EN}}$	Receiver Enable—Active Low (MAX211E, MAX241E)
	EN	Receiver Enable—Active High (MAX213E)
25	SHDN	Shutdown Control—Active High (MAX211E, MAX241E)
	$\overline{\text{SHDN}}$	Shutdown Control—Active Low (MAX213E)

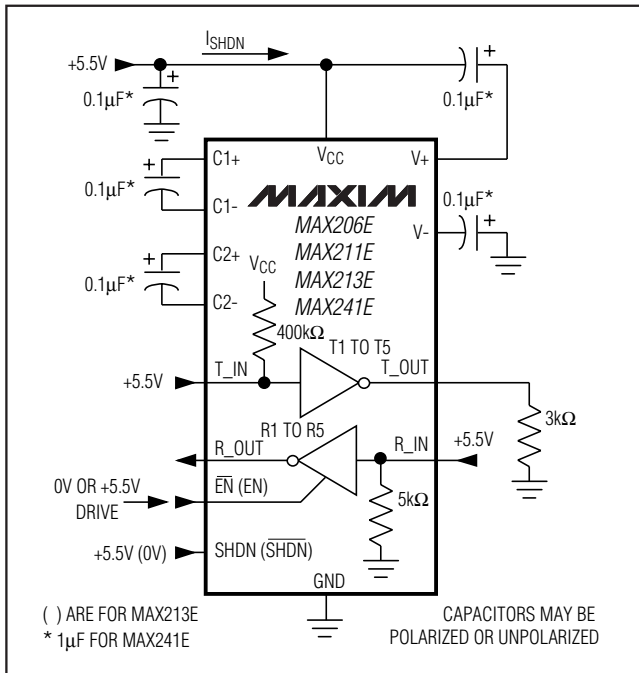


Figure 1. Shutdown-Current Test Circuit (MAX206E, MAX211E/MAX213E/MAX241E)

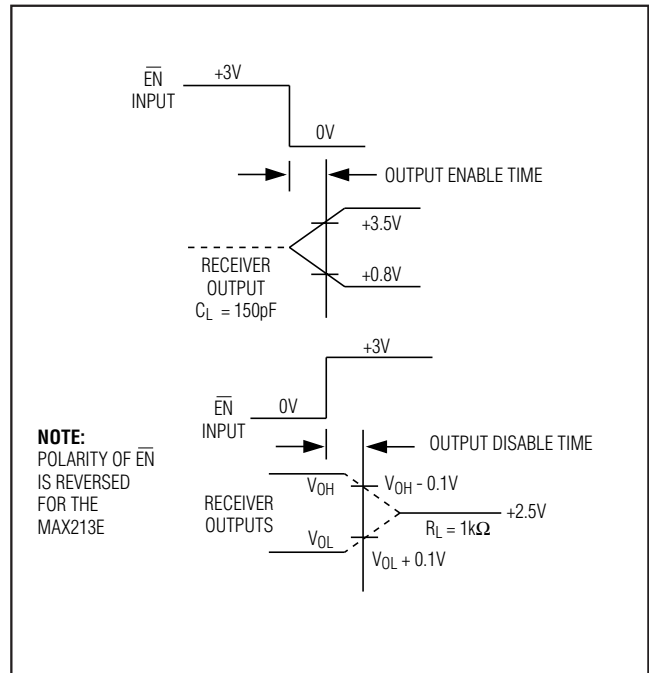


Figure 2. Receiver Output Enable and Disable Timing (MAX205E/MAX206E/MAX211E/MAX213E/MAX241E)

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Ordering Information (continued)

PART	TEMP RANGE	PIN-PACKAGE
MAX202ECUE	0°C to +70°C	16 TSSOP
MAX202ECWE	0°C to +70°C	16 Wide SO
MAX202EC/D	0°C to +70°C	Dice*
MAX202EEPE	-40°C to +85°C	16 Plastic DIP
MAX202EESE	-40°C to +85°C	16 Narrow SO
MAX202EEUE	-40°C to +85°C	16 TSSOP
MAX202EEWE	-40°C to +85°C	16 Wide SO
MAX203ECP	0°C to +70°C	20 Plastic DIP
MAX203ECWP	0°C to +70°C	20 SO
MAX203EPP	-40°C to +85°C	20 Plastic DIP
MAX203EWP	-40°C to +85°C	20 SO
MAX205ECP	0°C to +70°C	24 Wide Plastic DIP
MAX205EPP	-40°C to +85°C	24 Wide Plastic DIP
MAX206ECNG	0°C to +70°C	24 Narrow Plastic DIP
MAX206ECWG	0°C to +70°C	24 SO
MAX206ECAG	0°C to +70°C	24 SSOP
MAX206EENG	-40°C to +85°C	24 Narrow Plastic DIP
MAX206EEWG	-40°C to +85°C	24 SO
MAX206EEAG	-40°C to +85°C	24 SSOP
MAX207ECNG	0°C to +70°C	24 Narrow Plastic DIP
MAX207ECWG	0°C to +70°C	24 SO
MAX207ECAG	0°C to +70°C	24 SSOP
MAX207EENG	-40°C to +85°C	24 Narrow Plastic DIP
MAX207EEWG	-40°C to +85°C	24 SO
MAX207EEAG	-40°C to +85°C	24 SSOP

PART	TEMP RANGE	PIN-PACKAGE
MAX208ECNG	0°C to +70°C	24 Narrow Plastic DIP
MAX208ECWG	0°C to +70°C	24 SO
MAX208ECAG	0°C to +70°C	24 SSOP
MAX208EENG	-40°C to +85°C	24 Narrow Plastic DIP
MAX208EEWG	-40°C to +85°C	24 SO
MAX208EEAG	-40°C to +85°C	24 SSOP
MAX211ECWI	0°C to +70°C	28 SO
MAX211ECAI	0°C to +70°C	28 SSOP
MAX211EEWI	-40°C to +85°C	28 SO
MAX211EEAI	-40°C to +85°C	28 SSOP
MAX213ECWI	0°C to +70°C	28 SO
MAX213ECAI	0°C to +70°C	28 SSOP
MAX213EEWI	-40°C to +85°C	28 SO
MAX213EEAI	-40°C to +85°C	28 SSOP
MAX232ECPE	0°C to +70°C	16 Plastic DIP
MAX232ECSE	0°C to +70°C	16 Narrow SO
MAX232ECWE	0°C to +70°C	16 Wide SO
MAX232EC/D	0°C to +70°C	Dice*
MAX232EEPE	-40°C to +85°C	16 Plastic DIP
MAX232EESE	-40°C to +85°C	16 Narrow SO
MAX232EEWE	-40°C to +85°C	16 Wide SO
MAX241ECWI	0°C to +70°C	28 SO
MAX241ECAI	0°C to +70°C	28 SSOP
MAX241EEWI	-40°C to +85°C	28 SO
MAX241EEAI	-40°C to +85°C	28 SSOP

*Dice are specified at $T_A = +25^\circ\text{C}$.

MAX202E-MAX213E, MAX232E/MAX241E

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Package Information (continued)

(The package drawing(s) in this data sheet may not reflect the most current specifications. For the latest package outline information go to www.maxim-ic.com/packages.)

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.093	0.104	2.35	2.65
A1	0.004	0.012	0.10	0.30
B	0.014	0.019	0.35	0.49
C	0.009	0.013	0.23	0.32
e	0.050		1.27	
E	0.291	0.299	7.40	7.60
H	0.394	0.419	10.00	10.65
L	0.016	0.050	0.40	1.27

VARIATIONS:

DIM	INCHES		MILLIMETERS		N	MS013
	MIN	MAX	MIN	MAX		
D	0.398	0.413	10.10	10.50	16	AA
D	0.447	0.463	11.35	11.75	18	AB
D	0.496	0.512	12.60	13.00	20	AC
D	0.598	0.614	15.20	15.60	24	AD
D	0.697	0.713	17.70	18.10	28	AE

NOTES:
 1. D&E DO NOT INCLUDE MOLD FLASH.
 2. MOLD FLASH OR PROTRUSIONS NOT TO EXCEED 0.15mm (.006").
 3. LEADS TO BE COPLANAR WITHIN 0.10mm (.004").
 4. CONTROLLING DIMENSION: MILLIMETERS.
 5. MEETS JEDEC MS013.
 6. N = NUMBER OF PINS.

DALLAS SEMICONDUCTOR MAXIM
 PROPRIETARY INFORMATION
 TITLE: PACKAGE OUTLINE, .300° SOIC
 APPROVAL: DOCUMENT CONTROL NO: 21-0042 REV: B 1/1

SOICWEP

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	—	.110	—	.043
A1	0.05	0.15	.002	.006
A2	0.85	0.95	.033	.037
b	0.19	0.30	.007	.012
b1	0.19	0.25	.007	.010
c	0.09	0.20	.004	.008
c1	0.09	0.14	.004	.006
D	SEE VARIATIONS SEE VARIATIONS			
E	4.30	4.50	.169	.177
e	0.65 BSC		.026 BSC	
H	6.25	6.55	.246	.258
L	0.50	0.70	.020	.028
N	SEE VARIATIONS SEE VARIATIONS			
∅	0*	B*	0*	B*

JEDEC VARIATIONS

JEDEC	N	MILLIMETERS		INCHES	
MD-153		MIN.	MAX.	MIN.	MAX.
AB-1	14	4.90	5.10	.193	.201
AB	16	4.90	5.10	.193	.201
AC	20	6.40	6.60	.252	.260
AD	24	7.70	7.90	.303	.311
AE	28	9.60	9.80	.378	.386

NOTES:
 1. DIMENSIONS D AND E DO NOT INCLUDE FLASH
 2. MOLD FLASH OR PROTRUSIONS NOT TO EXCEED 0.15mm PER SIDE
 3. CONTROLLING DIMENSION: MILLIMETER
 4. MEETS JEDEC OUTLINE MD-153. SEE JEDEC VARIATIONS TABLE
 5. 'N' REFERS TO NUMBER OF LEADS
 6. THE LEAD TIPS MUST LIE WITHIN A SPECIFIED ZONE. THIS TOLERANCE ZONE IS DEFINED BY TWO PARALLEL PLANES. ONE PLANE IS THE SEATING PLANE, DATUM (C-C-1); THE OTHER PLANE IS AT THE SPECIFIED DISTANCE FROM (C-C-1) IN THE DIRECTION INDICATED.

DALLAS SEMICONDUCTOR MAXIM
 PROPRIETARY INFORMATION
 TITLE: PACKAGE OUTLINE, TSSOP 4.40mm BODY
 APPROVAL: DOCUMENT CONTROL NO: 21-0066 REV: G 1/1

TSSOP4.40mmEP

Maxim cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a Maxim product. No circuit patent licenses are implied. Maxim reserves the right to change the circuitry and specifications without notice at any time.

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MAX2020E-MAX213E, MAX232E/MAX241E