



## گروه فنی مهندسی جوش و برش مقدم اعتماد از شما کیفیت و تخصص از ما



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051-37581400



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برای کسب اطلاعات بیشتر بر روی لینک ها کلیک کنید

- 7 سال سابقه آموزش تعمیرات تخصصی دستگاه های جوش اینورتری تک فاز و 3 فاز
- 7 سال سابقه فروش قطعات الکترونیکی دستگاه جوش تک فاز و 3 فاز
- آموزش تخصصی تحلیل دستگاه های جوش اینورتری مختص ابراز فروشان
- آموزش تخصصی ابراز آلات شارژی

# SN55451B, SN55452B, SN55453B, SN55454B SN75451B, SN75452B, SN75453B, SN75454B DUAL PERIPHERAL DRIVERS

SLRS021B – DECEMBER 1976 – REVISED SEPTEMBER 1999

## PERIPHERAL DRIVERS FOR HIGH-CURRENT SWITCHING AT VERY HIGH SPEEDS

Characterized for Use to 300 mA

High-Voltage Outputs

No Output Latch-Up at 20 V (After  
Conducting 300 mA)

High-Speed Switching

Circuit Flexibility for Varied Applications

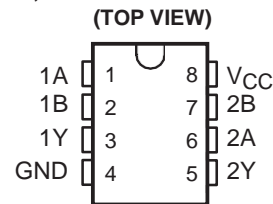
TTL-Compatible Diode-Clamped Inputs

Standard Supply Voltages

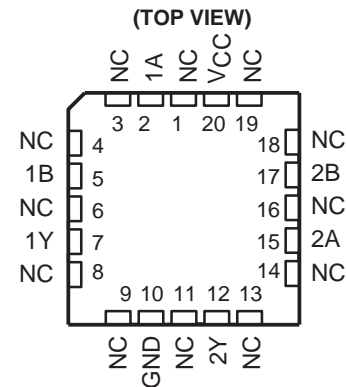
Plastic DIP (P) With Copper Lead Frame  
Provides Cooler Operation and Improved  
Reliability

Package Options Include Plastic  
Small-Outline Packages, Ceramic Chip  
Carriers, and Standard Plastic and Ceramic  
300-mil DIPs

SN55451B, SN55452B,  
SN55453B, SN55454B . . . JG PACKAGE  
SN75451B, SN75452B,  
SN75453B, SN75454B . . . D OR P PACKAGE



SN55451B, SN55452B  
SN55453B, SN55454B . . . FK PACKAGE



NC – No internal connection

SUMMARY OF DEVICES

DEVICE	LOGIC OF COMPLETE CIRCUIT	PACKAGES
SN55451B	AND	FK, JG
SN55452B	NAND	JG
SN55453B	OR	FK, JG
SN55454B	NOR	JG
SN75451B	AND	D, P
SN75452B	NAND	D, P
SN75453B	OR	D, P
SN75454B	NOR	D, P

## description

The SN55451B through SN55454B and SN75451B through SN75454B are dual peripheral drivers designed for use in systems that employ TTL logic. This family is functionally interchangeable with and replaces the SN75450 family and the SN75450A family devices manufactured previously. The speed of the devices is equal to that of the SN75450 family, and the parts are designed to ensure freedom from latch-up. Diode-clamped inputs simplify circuit design. Typical applications include high-speed logic buffers, power drivers, relay drivers, lamp drivers, MOS drivers, line drivers, and memory drivers.

The SN55451B/SN75451B, SN55452B/SN75452B, SN55453B/SN75453B, and SN55454B/SN75454B are dual peripheral AND, NAND, OR, and NOR drivers, respectively (assuming positive logic), with the output of the logic gates internally connected to the bases of the npn output transistors.

The SN55' drivers are characterized for operation over the full military range of  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ . The SN75' drivers are characterized for operation from  $0^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ .

**SN55451B, SN55452B, SN55453B, SN55454B  
SN75451B, SN75452B, SN75453B, SN75454B  
DUAL PERIPHERAL DRIVERS**

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

	SN55'	SN75'	UNIT
Supply voltage, $V_{CC}$ (see Note 1)	7	7	V
Input voltage, $V_I$	5.5	5.5	V
Inter-emitter voltage (see Note 2)	5.5	5.5	V
Off-state output voltage, $V_O$	30	30	V
Continuous collector or output current, $I_{OK}$ (see Note 3)	400	400	mA
Peak collector or output current, $I_I$ ( $t_W \leq 10$ ms, duty cycle $\leq 50\%$ , see Note 4)	500	500	mA
Continuous total power dissipation	See Dissipation Rating Table		
Operating free-air temperature range, $T_A$	-55 to 125	0 to 70	°C
Storage temperature range, $T_{stg}$	-65 to 150	-65 to 150	°C
Case temperature for 60 seconds	FK package	260	°C
Lead temperature 1,6 mm (1/16 inch) from case for 60 seconds	JG package	300	°C
Lead temperature 1,6 mm (1/16 inch) from case for 10 seconds	D or P package		260 °C

- NOTES: 1. Voltage values are with respect to network GND, unless otherwise specified.  
 2. This is the voltage between two emitters of a multiple-emitter transistor.  
 3. This value applies when the base-emitter resistance ( $R_{BE}$ ) is equal to or less than 500  $\Omega$ .  
 4. Both halves of these dual circuits may conduct rated current simultaneously; however, power dissipation averaged over a short time interval must fall within the continuous dissipation rating.

**DISSIPATION RATING TABLE**

PACKAGE	$T_A \leq 25^\circ\text{C}$ POWER RATING	DERATING FACTOR ABOVE $T_A = 25^\circ\text{C}$	$T_A = 70^\circ\text{C}$ POWER RATING	$T_A = 125^\circ\text{C}$ POWER RATING
D	725 mW	5.8 mW/°C	464 mW	—
FK	1375 mW	11.0 mW/°C	880 mW	275 mW
JG	1050 mW	8.4 mW/°C	672 mW	210 mW
P	1000 mW	8.0 mW/°C	640 mW	—

**recommended operating conditions**

	SN55'			SN75'			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
Supply voltage, $V_{CC}$	4.5	5	5.5	4.75	5	5.25	V
High-level input voltage, $V_{IH}$	2			2			V
Low-level input voltage, $V_{IL}$			0.8			0.8	V
Operating free-air temperature, $T_A$	-55		125	0		70	°C



# SN55451B, SN55452B, SN55453B, SN55454B SN75451B, SN75452B, SN75453B, SN75454B DUAL PERIPHERAL DRIVERS

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## logic symbol†



† This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC publication 617-12.

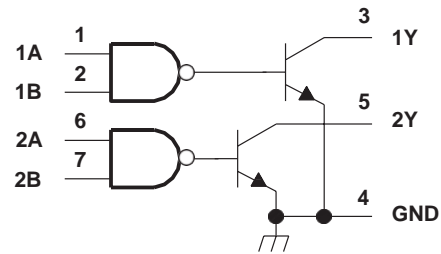
Pin numbers shown are for the D, JG, and P packages.

**FUNCTION TABLE**  
(each driver)

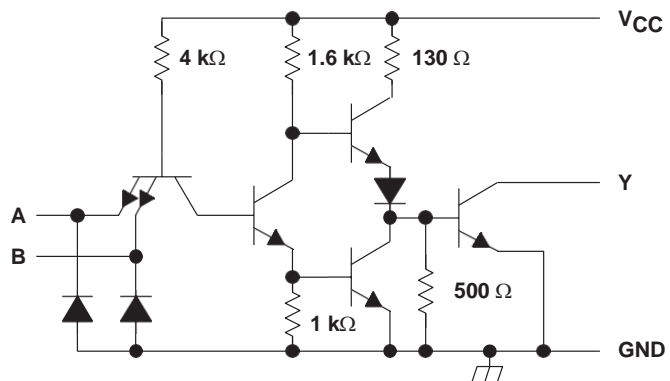
A	B	Y
L	L	L (on state)
L	H	L (on state)
H	L	L (on state)
H	H	H (off state)

positive logic:       
Y = AB or A+B

## logic diagram (positive logic)



## schematic (each driver)



Resistor values shown are nominal.

## electrical characteristics over recommended operating free-air temperature range

PARAMETER	TEST CONDITIONS‡	SN55451B		SN75451B		UNIT		
		MIN	TYP§	MAX	MIN		TYP§	MAX
V <sub>IK</sub> Input clamp voltage	V <sub>CC</sub> = MIN, I <sub>I</sub> = -12 mA	-1.2		-1.5	-1.2		-1.5	V
V <sub>OL</sub> Low-level output voltage	V <sub>CC</sub> = MIN, V <sub>IL</sub> = 0.8 V, I <sub>OL</sub> = 100 mA	0.25		0.5	0.25		0.4	V
	V <sub>CC</sub> = MIN, V <sub>IL</sub> = 0.8 V, I <sub>OL</sub> = 300 mA	0.5		0.8	0.5		0.7	
I <sub>OH</sub> High-level output current	V <sub>CC</sub> = MIN, V <sub>IH</sub> = MIN, V <sub>OH</sub> = 30 V			300			100	μA
I <sub>I</sub> Input current at maximum input voltage	V <sub>CC</sub> = MAX, V <sub>I</sub> = 5.5 V			1			1	mA
I <sub>IH</sub> High-level input current	V <sub>CC</sub> = MAX, V <sub>I</sub> = 2.4 V			40			40	μA
I <sub>IL</sub> Low-level input current	V <sub>CC</sub> = MAX, V <sub>I</sub> = 0.4 V	-1		-1.6	-1		-1.6	mA
I <sub>CCH</sub> Supply current, outputs high	V <sub>CC</sub> = MAX, V <sub>I</sub> = 5 V	7		11	7		11	mA
I <sub>CCL</sub> Supply current, outputs low	V <sub>CC</sub> = MAX, V <sub>I</sub> = 0	52		65	52		65	mA

‡ For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

§ All typical values are at V<sub>CC</sub> = 5 V, T<sub>A</sub> = 25°C.

## switching characteristics, V<sub>CC</sub> = 5 V, T<sub>A</sub> = 25°C

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
t <sub>PLH</sub> Propagation delay time, low-to-high-level output	I <sub>O</sub> ≈ 200 mA, C <sub>L</sub> = 15 pF, R <sub>L</sub> = 50 Ω, See Figure 1		18	25	ns
t <sub>PHL</sub> Propagation delay time, high-to-low-level output			18	25	
t <sub>TLH</sub> Transition time, low-to-high-level output			5	8	
t <sub>THL</sub> Transition time, high-to-low-level output			7	12	
V <sub>OH</sub> High-level output voltage after switching	SN55451B	V <sub>S</sub> - 6.5			mV
	SN75451B	V <sub>S</sub> - 6.5			

# SN55451B, SN55452B, SN55453B, SN55454B SN75451B, SN75452B, SN75453B, SN75454B DUAL PERIPHERAL DRIVERS

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## logic symbol†



† This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC publication 617-12.

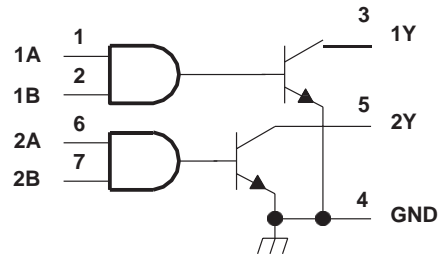
Pin numbers shown are for the D, JG, and P packages.

**FUNCTION TABLE**  
(each driver)

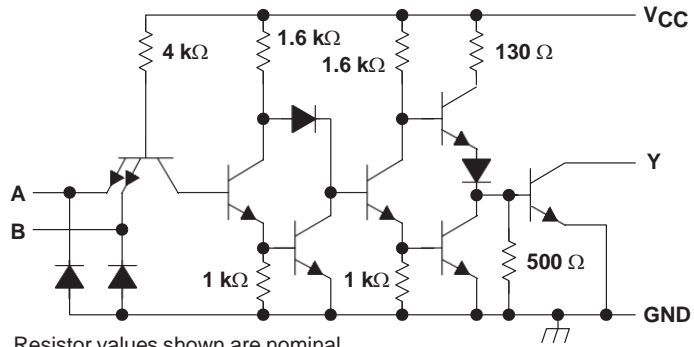
A	B	Y
L	L	H (off state)
L	H	H (off state)
H	L	H (off state)
H	H	L (on state)

positive logic:  $\underline{\quad}$   
 $Y = AB \text{ or } A+B$

## logic diagram (positive logic)



## schematic (each driver)



Resistor values shown are nominal.

## electrical characteristics over recommended operating free-air temperature range

PARAMETER	TEST CONDITIONS‡	SN55452B			SN75452B			UNIT
		MIN	TYP§	MAX	MIN	TYP§	MAX	
$V_{IK}$ Input clamp voltage	$V_{CC} = \text{MIN}$ , $I_I = -12 \text{ mA}$	-1.2	-1.5		-1.2	-1.5		V
$V_{OL}$ Low-level output voltage	$V_{CC} = \text{MIN}$ , $V_{IH} = \text{MIN}$ , $I_{OL} = 100 \text{ mA}$	0.25	0.5		0.25	0.4		V
	$V_{CC} = \text{MIN}$ , $V_{IH} = \text{MIN}$ , $I_{OL} = 300 \text{ mA}$	0.5	0.8		0.5	0.7		
$I_{OH}$ High-level output current	$V_{CC} = \text{MIN}$ , $V_{IL} = 0.8 \text{ V}$ , $V_{OH} = 30 \text{ V}$			300			100	$\mu\text{A}$
$I_I$ Input current at maximum input voltage	$V_{CC} = \text{MAX}$ , $V_I = 5.5 \text{ V}$			1			1	mA
$I_{IH}$ High-level input current	$V_{CC} = \text{MAX}$ , $V_I = 2.4 \text{ V}$			40			40	$\mu\text{A}$
$I_{IL}$ Low-level input current	$V_{CC} = \text{MAX}$ , $V_I = 0.4 \text{ V}$	-1.1	-1.6		-1.1	-1.6		mA
$I_{CCH}$ Supply current, outputs high	$V_{CC} = \text{MAX}$ , $V_I = 0$		11	14		11	14	mA
$I_{CCL}$ Supply current, outputs low	$V_{CC} = \text{MAX}$ , $V_I = 5 \text{ V}$		56	71		56	71	mA

‡ For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

§ All typical values are at  $V_{CC} = 5 \text{ V}$ ,  $T_A = 25^\circ\text{C}$ .

## switching characteristics, $V_{CC} = 5 \text{ V}$ , $T_A = 25^\circ\text{C}$

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
$t_{PLH}$ Propagation delay time, low-to-high-level output	$I_O \approx 200 \text{ mA}$ , $C_L = 15 \text{ pF}$ , $R_L = 50 \Omega$ , See Figure 1		26	35	ns
$t_{PHL}$ Propagation delay time, high-to-low-level output			24	35	
$t_{TLH}$ Transition time, low-to-high-level output			5	8	
$t_{THL}$ Transition time, high-to-low-level output			7	12	
$V_{OH}$ High-level output voltage after switching	SN55452B	$V_S - 6.5$			mV
	SN75452B	$V_S - 6.5$			

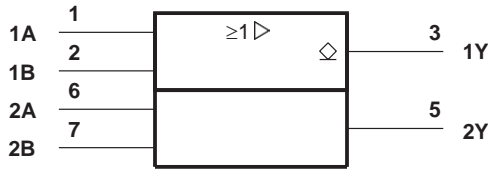


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# SN55451B, SN55452B, SN55453B, SN55454B SN75451B, SN75452B, SN75453B, SN75454B DUAL PERIPHERAL DRIVERS

SLRS021B – DECEMBER 1976 – REVISED SEPTEMBER 1999

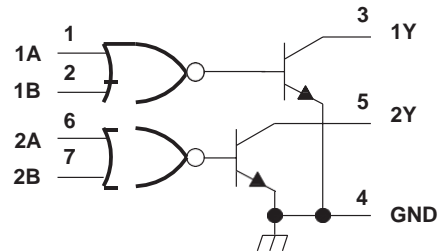
## logic symbol†



† This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC publication 617-12.

Pin numbers shown are for the D, JG, and P packages.

## logic diagram (positive logic)

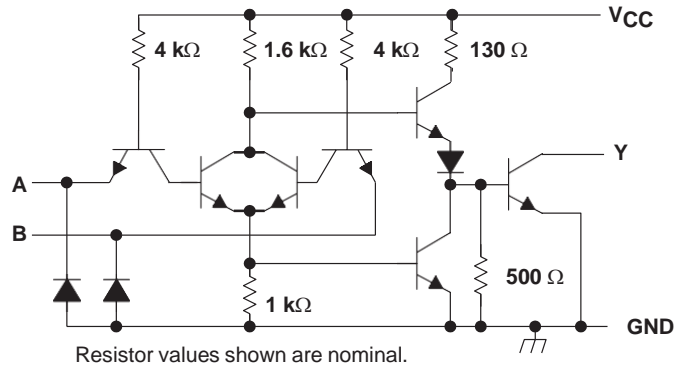


**FUNCTION TABLE  
(each driver)**

A	B	Y
L	L	L (on state)
L	H	H (off state)
H	L	H (off state)
H	H	H (off state)

positive logic:  $Y = A+B$  or  $\overline{A} \overline{B}$

## schematic (each driver)



Resistor values shown are nominal.

## electrical characteristics over recommended operating free-air temperature range

PARAMETER	TEST CONDITIONS‡	SN55453B		SN75453B		UNIT
		MIN	TYP§	MAX	MIN	
$V_{IK}$ Input clamp voltage	$V_{CC} = \text{MIN}$ , $I_I = -12 \text{ mA}$	-1.2	-1.5	-1.2	-1.5	V
$V_{OL}$ Low-level output voltage	$V_{CC} = \text{MIN}$ , $V_{IL} = 0.8 \text{ V}$ , $I_{OL} = 100 \text{ mA}$	0.25	0.5	0.25	0.4	V
	$V_{CC} = \text{MIN}$ , $V_{IL} = 0.8 \text{ V}$ , $I_{OL} = 300 \text{ mA}$	0.5	0.8	0.5	0.7	
$I_{OH}$ High-level output current	$V_{CC} = \text{MIN}$ , $V_{IH} = \text{MIN}$ , $V_{OH} = 30 \text{ V}$			300	100	$\mu\text{A}$
$I_I$ Input current at maximum input voltage	$V_{CC} = \text{MAX}$ , $V_I = 5.5 \text{ V}$			1	1	mA
$I_{IH}$ High-level input current	$V_{CC} = \text{MAX}$ , $V_I = 2.4 \text{ V}$			40	40	$\mu\text{A}$
$I_{IL}$ Low-level input current	$V_{CC} = \text{MAX}$ , $V_I = 0.4 \text{ V}$	-1	-1.6	-1	-1.6	mA
$I_{CCH}$ Supply current, outputs high	$V_{CC} = \text{MAX}$ , $V_I = 5 \text{ V}$	8	11	8	11	mA
$I_{CCL}$ Supply current, outputs low	$V_{CC} = \text{MAX}$ , $V_I = 0$	54	68	54	68	mA

‡ For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

§ All typical values are at  $V_{CC} = 5 \text{ V}$ ,  $T_A = 25^\circ\text{C}$ .

## switching characteristics, $V_{CC} = 5 \text{ V}$ , $T_A = 25^\circ\text{C}$

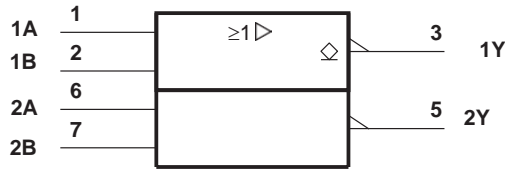
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
$t_{PLH}$ Propagation delay time, low-to-high-level output	$I_O \approx 200 \text{ mA}$ , $C_L = 15 \text{ pF}$ , $R_L = 50 \Omega$ , See Figure 1		18	25	ns
$t_{PHL}$ Propagation delay time, high-to-low-level output			18	25	
$t_{TLH}$ Transition time, low-to-high-level output			5	8	
$t_{THL}$ Transition time, high-to-low-level output			7	12	
$V_{OH}$ High-level output voltage after switching	SN55453B	$V_S - 6.5$			mV
	SN75453B	$V_S - 6.5$			



# SN55451B, SN55452B, SN55453B, SN55454B SN75451B, SN75452B, SN75453B, SN75454B DUAL PERIPHERAL DRIVERS

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## logic symbol†



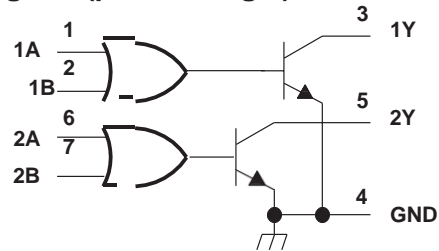
† This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC publication 617-12. Pin numbers shown are for the D, JG, and P packages.

**FUNCTION TABLE**  
(each driver)

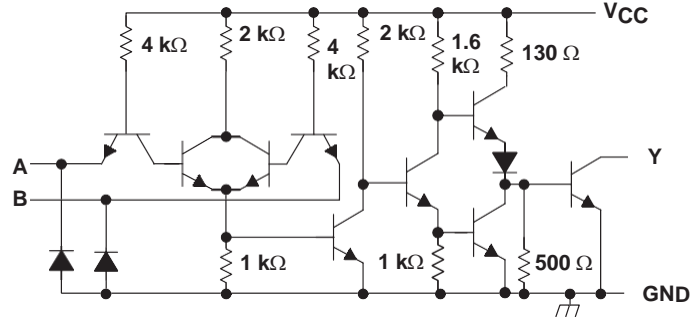
A	B	Y
L	L	H (off state)
L	H	L (on state)
H	L	L (on state)
H	H	L (on state)

positive logic:  
Y = A+B or AB

## logic diagram (positive logic)



## schematic (each driver)



Resistor values shown are nominal.

## electrical characteristics over recommended operating free-air temperature range

PARAMETER	TEST CONDITIONS	SN55454B			SN75454B			UNIT
		MIN	TYP <sup>§</sup>	MAX	MIN	TYP <sup>§</sup>	MAX	
V <sub>IK</sub> Input clamp voltage	V <sub>CC</sub> = MIN, I <sub>I</sub> = -12 mA	-1.2	-1.5		-1.2	-1.5		V
V <sub>OL</sub> Low-level output voltage	V <sub>CC</sub> = MIN, V <sub>IH</sub> = MIN, I <sub>OL</sub> = 100 mA	0.25	0.5		0.25	0.4		V
	V <sub>CC</sub> = MIN, V <sub>IH</sub> = MIN, I <sub>OL</sub> = 300 mA	0.5	0.8		0.5	0.7		
I <sub>OH</sub> High-level output current	V <sub>CC</sub> = MIN, V <sub>IH</sub> = 0.8 V, V <sub>OH</sub> = 30 V			300			100	μA
I <sub>I</sub> Input current at maximum input voltage	V <sub>CC</sub> = MAX, V <sub>I</sub> = 5.5 V			1			1	mA
I <sub>IH</sub> High-level input current	V <sub>CC</sub> = MAX, V <sub>I</sub> = 2.4 V			40			40	μA
I <sub>IL</sub> Low-level input current	V <sub>CC</sub> = MAX, V <sub>I</sub> = 0.4 V	-1	-1.6		-1	-1.6		mA
I <sub>CCH</sub> Supply current, outputs high	V <sub>CC</sub> = MAX, V <sub>I</sub> = 0	13	17		13	17		mA
I <sub>CCL</sub> Supply current, outputs low	V <sub>CC</sub> = MAX, V <sub>I</sub> = 5 V	61	79		61	79		mA

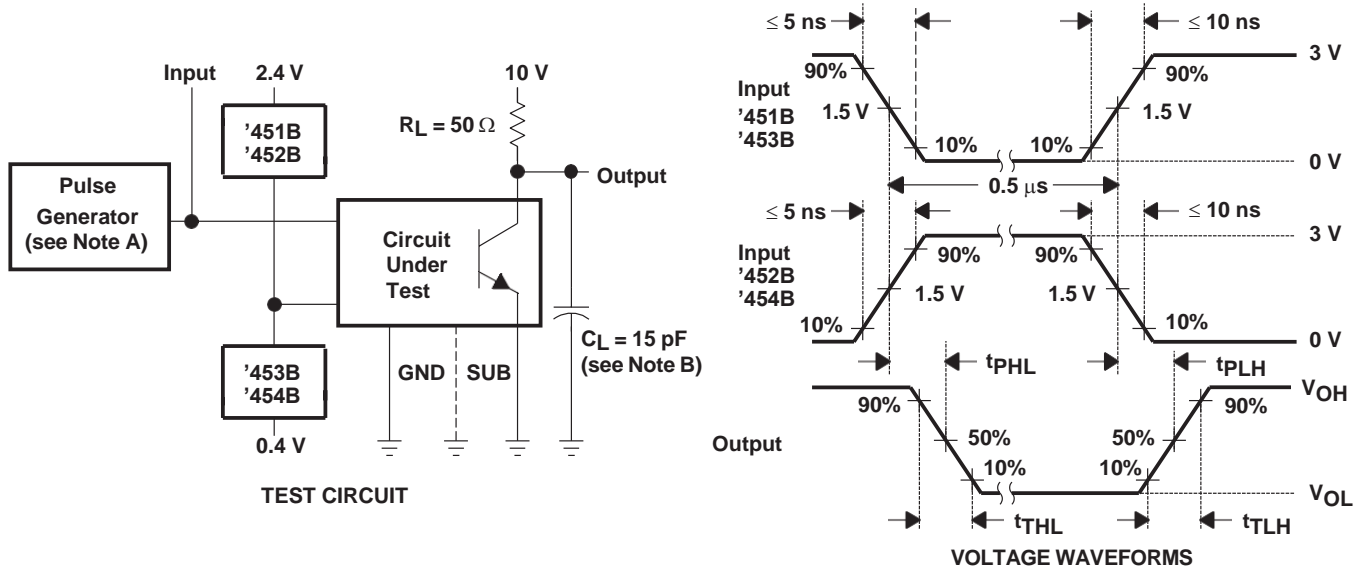
‡ For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

§ All typical values are at V<sub>CC</sub> = 5 V, T<sub>A</sub> = 25°C.

## switching characteristics, V<sub>CC</sub> = 5 V, T<sub>A</sub> = 25°C

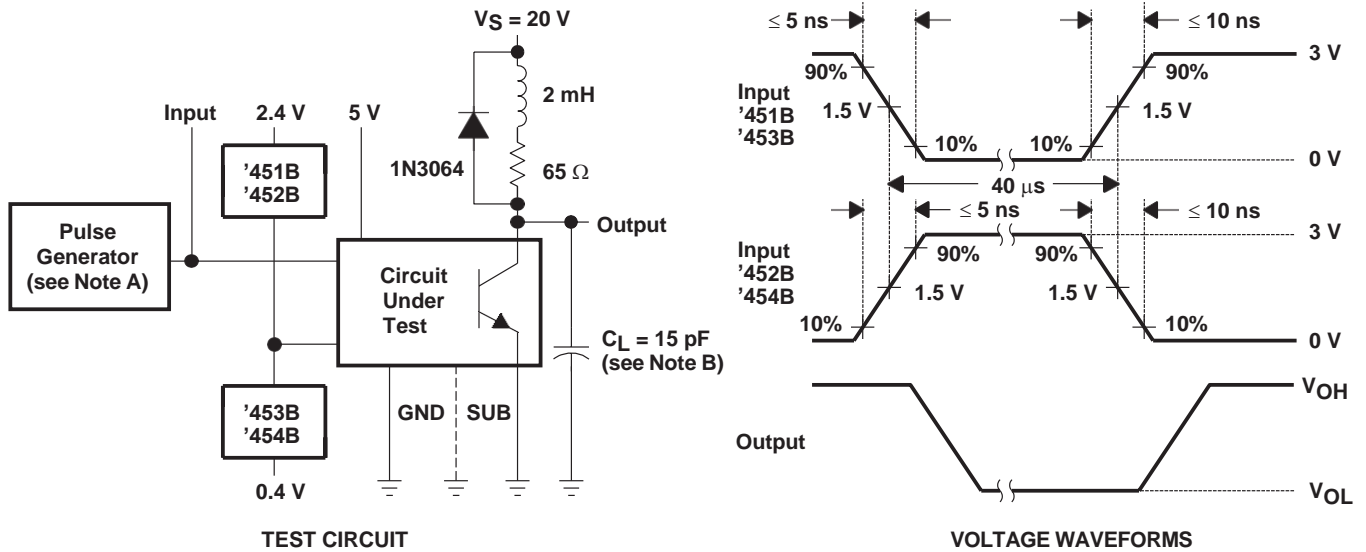
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
t <sub>PLH</sub> Propagation delay time, low-to-high-level output	I <sub>O</sub> ≈ 200 mA, C <sub>L</sub> = 15 pF, R <sub>L</sub> = 50 Ω, See Figure 1		27	35	ns
t <sub>PHL</sub> Propagation delay time, high-to-low-level output			24	35	
t <sub>TLH</sub> Transition time, low-to-high-level output			5	8	
t <sub>THL</sub> Transition time, high-to-low-level output			7	12	
V <sub>OH</sub> High-level output voltage after switching	SN55454B	V <sub>S</sub> = 20 V, I <sub>O</sub> ≈ 300 mA, See Figure 2			mV
	SN75454B	V <sub>S</sub> - 6.5			

PARAMETER MEASUREMENT INFORMATION



NOTES: A. The pulse generator has the following characteristics: PRR  $\leq$  1 MHz,  $Z_O = 50 \Omega$ .  
 B.  $C_L$  includes probe and jig capacitance.

Figure 1. Test Circuit and Voltage Waveforms, Complete Drivers



NOTES: A. The pulse generator has the following characteristics: PRR  $\leq$  12.5 kHz,  $Z_O = 50 \Omega$ .  
 B.  $C_L$  includes probe and jig capacitance.

Figure 2. Test Circuit and Voltage Waveforms for Latch-Up Test of Complete Drivers

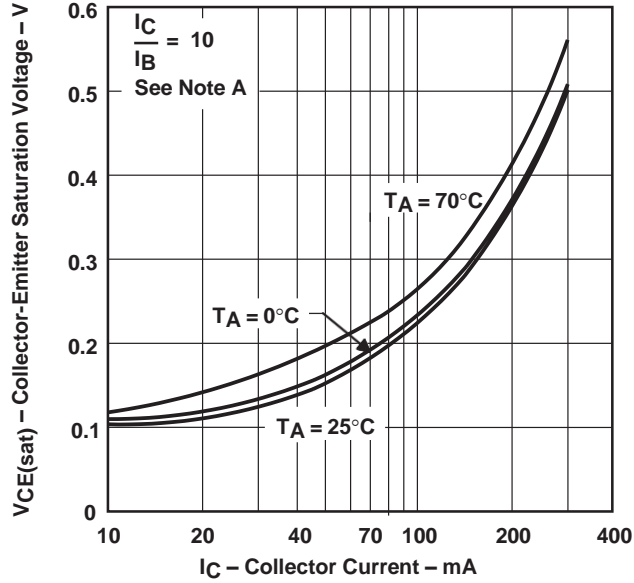


**SN55451B, SN55452B, SN55453B, SN55454B**  
**SN75451B, SN75452B, SN75453B, SN75454B**  
**DUAL PERIPHERAL DRIVERS**

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**TYPICAL CHARACTERISTICS**

**TRANSISTOR**  
**COLLECTOR-EMITTER SATURATION VOLTAGE**  
**vs**  
**COLLECTOR CURRENT**



NOTE A: These parameters must be measured using pulse techniques,  $t_w = 300 \mu s$ , duty cycle  $\leq 2\%$ .

**Figure 3**

**PACKAGING INFORMATION**

Orderable Device	Status <sup>(1)</sup>	Package Type	Package Drawing	Pins	Package Qty	Eco Plan <sup>(2)</sup>	Lead/Ball Finish	MSL Peak Temp <sup>(3)</sup>
5962-9563301Q2A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
5962-9563301QPA	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
77049012A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
7704901PA	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
77049022A	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
7704902PA	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
JM38510/12902BPA	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
JM38510/12903BPA	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
JM38510/12905BPA	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
SN55451BJG	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
SN55452BJG	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
SN55453BJG	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
SN55454BJG	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
SN75451BD	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75451BDE4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75451BDR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75451BDRE4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75451BP	ACTIVE	PDIP	P	8	50	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN75451BPE4	ACTIVE	PDIP	P	8	50	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN75451BPSR	ACTIVE	SO	PS	8	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75451BPSRE4	ACTIVE	SO	PS	8	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75452BD	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75452BDE4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75452BDR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75452BDRE4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75452BP	ACTIVE	PDIP	P	8	50	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN75452BPE4	ACTIVE	PDIP	P	8	50	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN75452BPSR	ACTIVE	SO	PS	8	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75452BPSRE4	ACTIVE	SO	PS	8	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75453BD	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM

Orderable Device	Status <sup>(1)</sup>	Package Type	Package Drawing	Pins	Package Qty	Eco Plan <sup>(2)</sup>	Lead/Ball Finish	MSL Peak Temp <sup>(3)</sup>
SN75453BDE4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75453BDR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75453BDRE4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75453BP	ACTIVE	PDIP	P	8	50	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN75453BPE4	ACTIVE	PDIP	P	8	50	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN75453BPSR	ACTIVE	SO	PS	8	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75453BPSRE4	ACTIVE	SO	PS	8	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75454BD	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75454BDE4	ACTIVE	SOIC	D	8	75	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75454BDR	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75454BDRE4	ACTIVE	SOIC	D	8	2500	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75454BP	ACTIVE	PDIP	P	8	50	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN75454BPE4	ACTIVE	PDIP	P	8	50	Pb-Free (RoHS)	CU NIPDAU	N / A for Pkg Type
SN75454BPSR	ACTIVE	SO	PS	8	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SN75454BPSRE4	ACTIVE	SO	PS	8	2000	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM
SNJ55451BFK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ55451BJG	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ55452BFK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ55452BJG	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ55453BFK	ACTIVE	LCCC	FK	20	1	TBD	POST-PLATE	N / A for Pkg Type
SNJ55453BJG	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type
SNJ55454BFK	OBSOLETE	LCCC	FK	20		TBD	POST-PLATE	N / A for Pkg Type
SNJ55454BJG	ACTIVE	CDIP	JG	8	1	TBD	A42 SNPB	N / A for Pkg Type

<sup>(1)</sup> The marketing status values are defined as follows:

**ACTIVE:** Product device recommended for new designs.

**LIFEBUY:** TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

**NRND:** Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

**PREVIEW:** Device has been announced but is not in production. Samples may or may not be available.

**OBSOLETE:** TI has discontinued the production of the device.

<sup>(2)</sup> Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check <http://www.ti.com/productcontent> for the latest availability information and additional product content details.

**TBD:** The Pb-Free/Green conversion plan has not been defined.

**Pb-Free (RoHS):** TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered

at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

**Pb-Free (RoHS Exempt):** This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.

**Green (RoHS & no Sb/Br):** TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

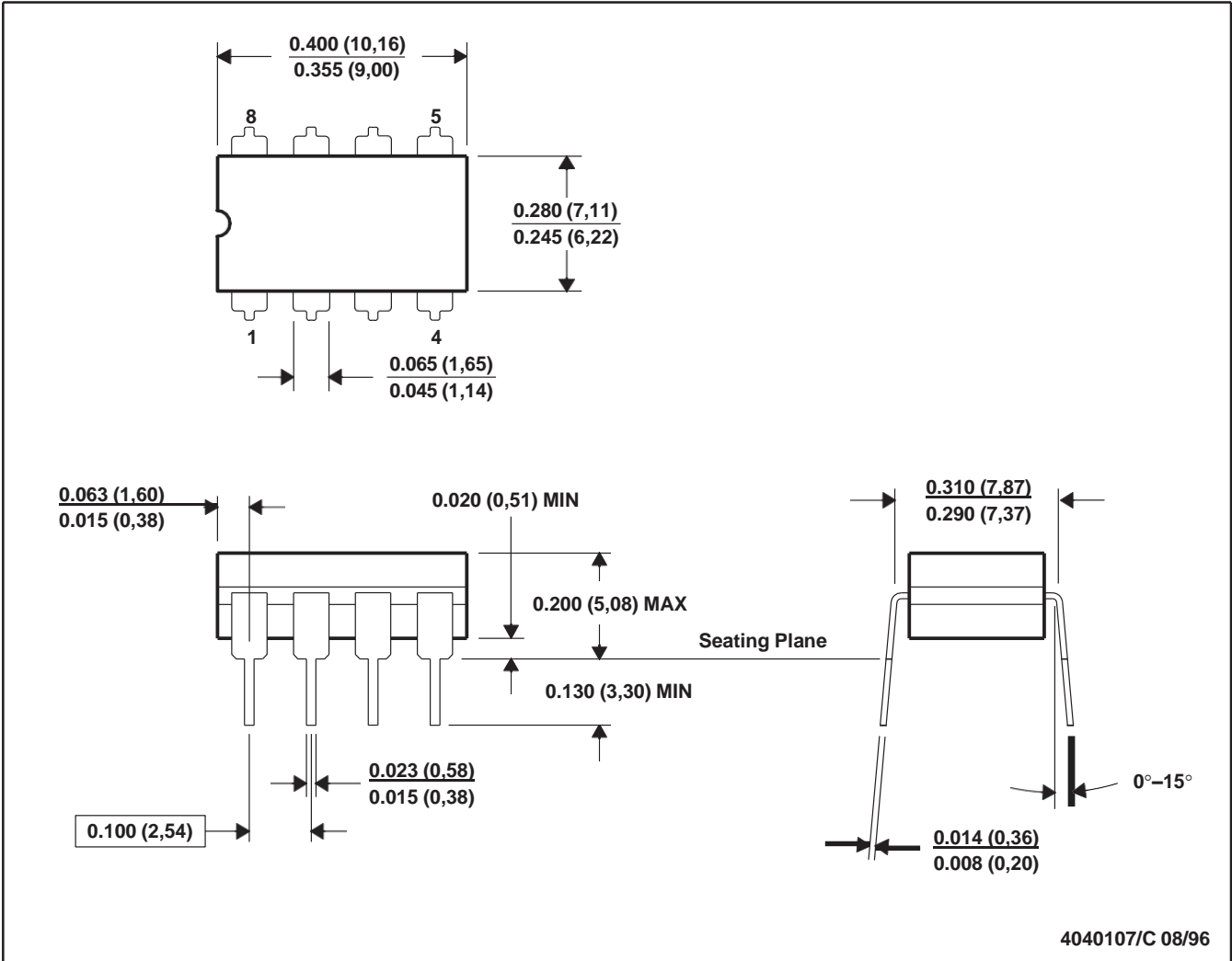
<sup>(3)</sup> MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

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JG (R-GDIP-T8)

CERAMIC DUAL-IN-LINE

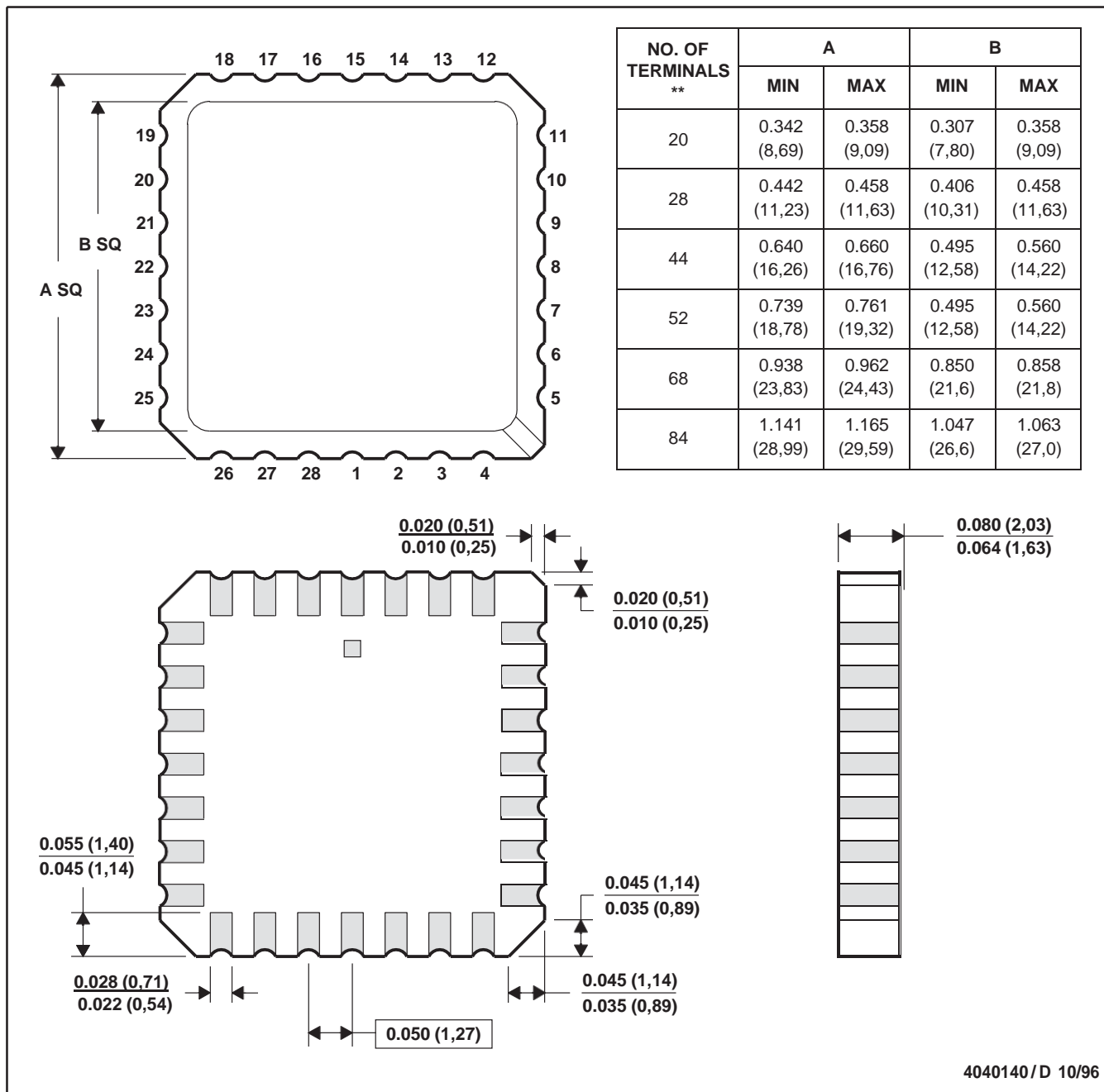


- NOTES: A. All linear dimensions are in inches (millimeters).  
B. This drawing is subject to change without notice.  
C. This package can be hermetically sealed with a ceramic lid using glass frit.  
D. Index point is provided on cap for terminal identification.  
E. Falls within MIL STD 1835 GDIP1-T8

FK (S-CQCC-N\*\*)

LEADLESS CERAMIC CHIP CARRIER

28 TERMINAL SHOWN

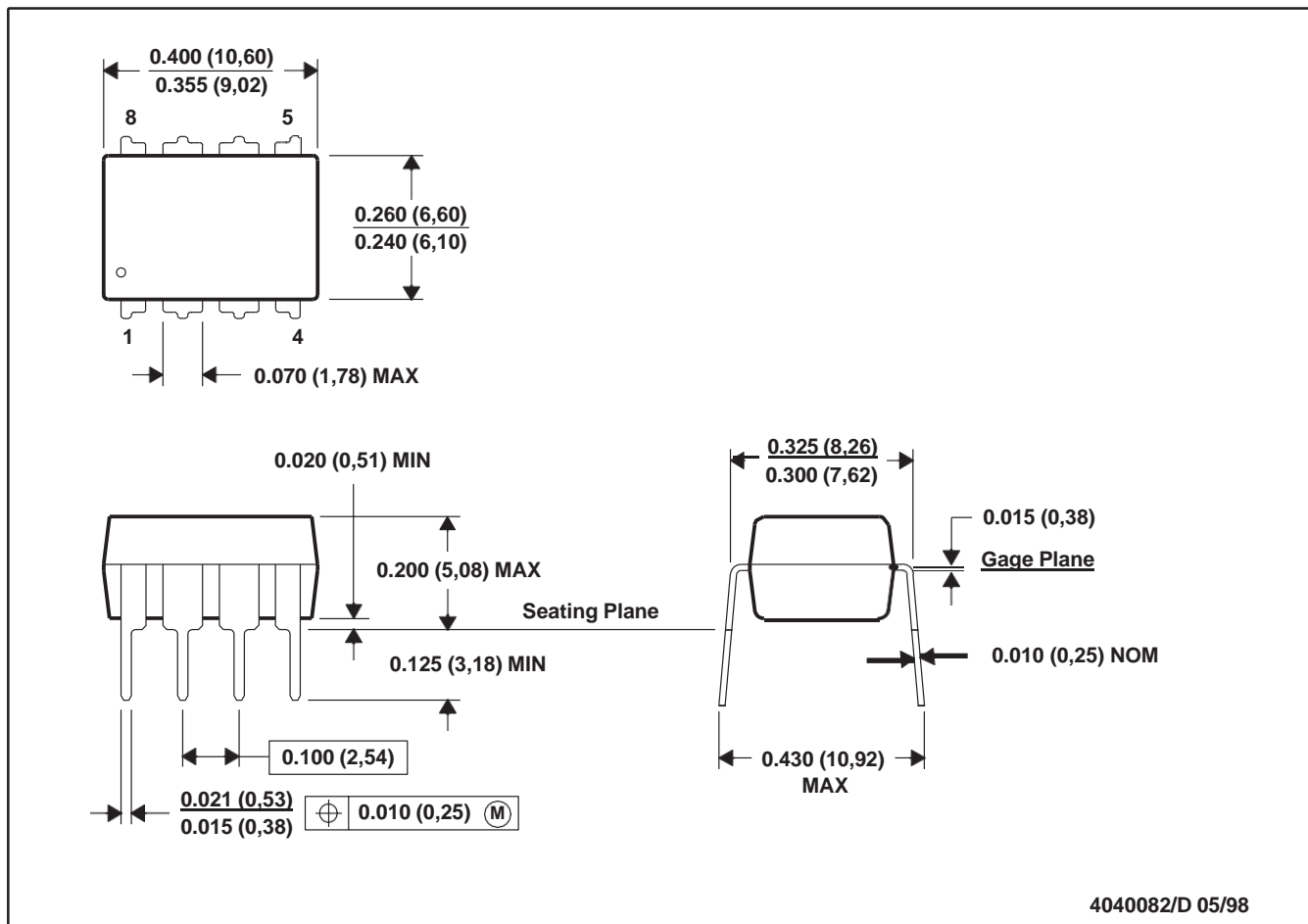


4040140/D 10/96

- NOTES: A. All linear dimensions are in inches (millimeters).  
 B. This drawing is subject to change without notice.  
 C. This package can be hermetically sealed with a metal lid.  
 D. The terminals are gold plated.  
 E. Falls within JEDEC MS-004

P (R-PDIP-T8)

PLASTIC DUAL-IN-LINE



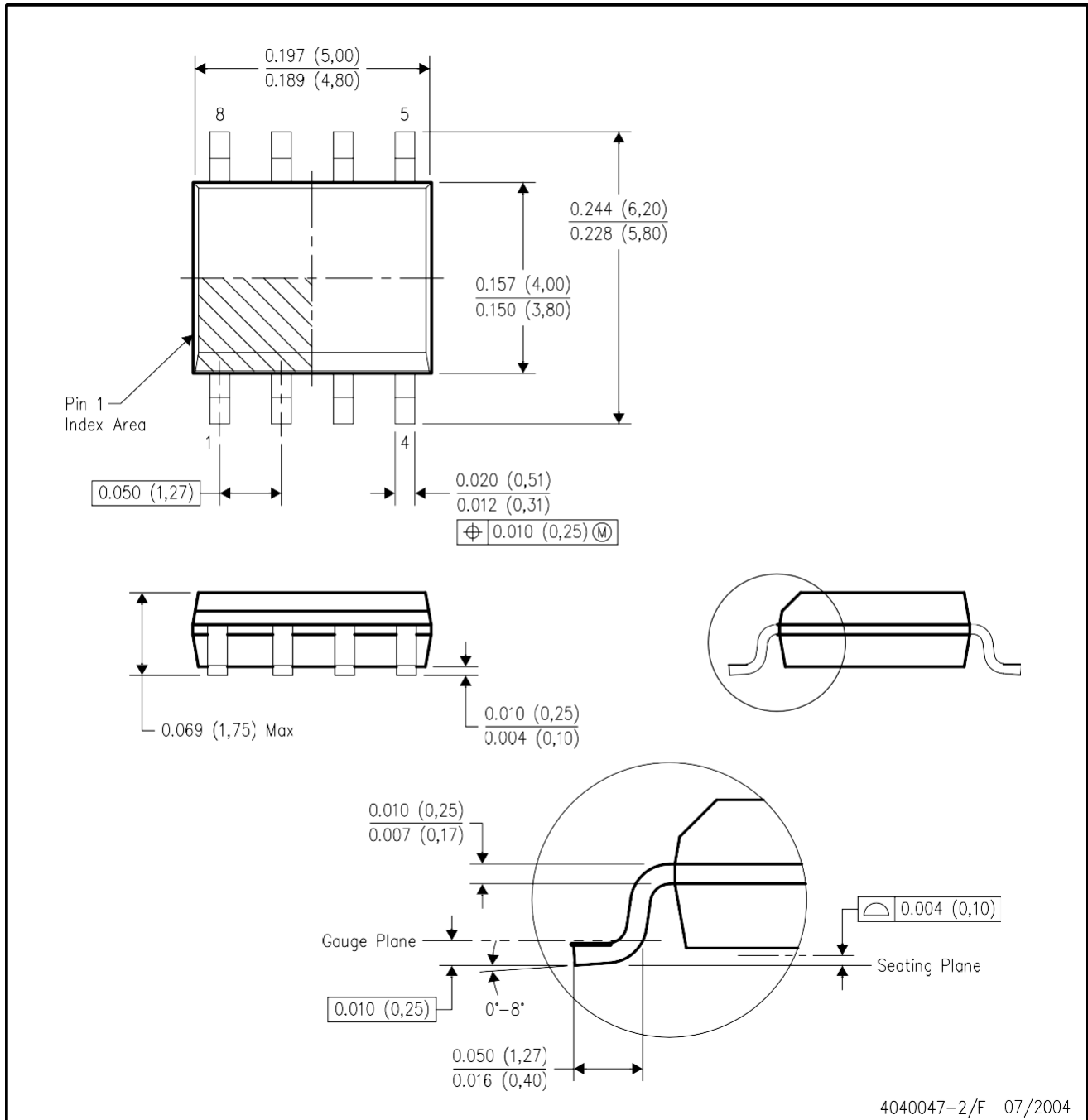
- NOTES: A. All linear dimensions are in inches (millimeters).  
 B. This drawing is subject to change without notice.  
 C. Falls within JEDEC MS-001

For the latest package information, go to [http://www.ti.com/sc/docs/package/pkg\\_info.htm](http://www.ti.com/sc/docs/package/pkg_info.htm)



D (R-PDSO-G8)

PLASTIC SMALL-OUTLINE PACKAGE



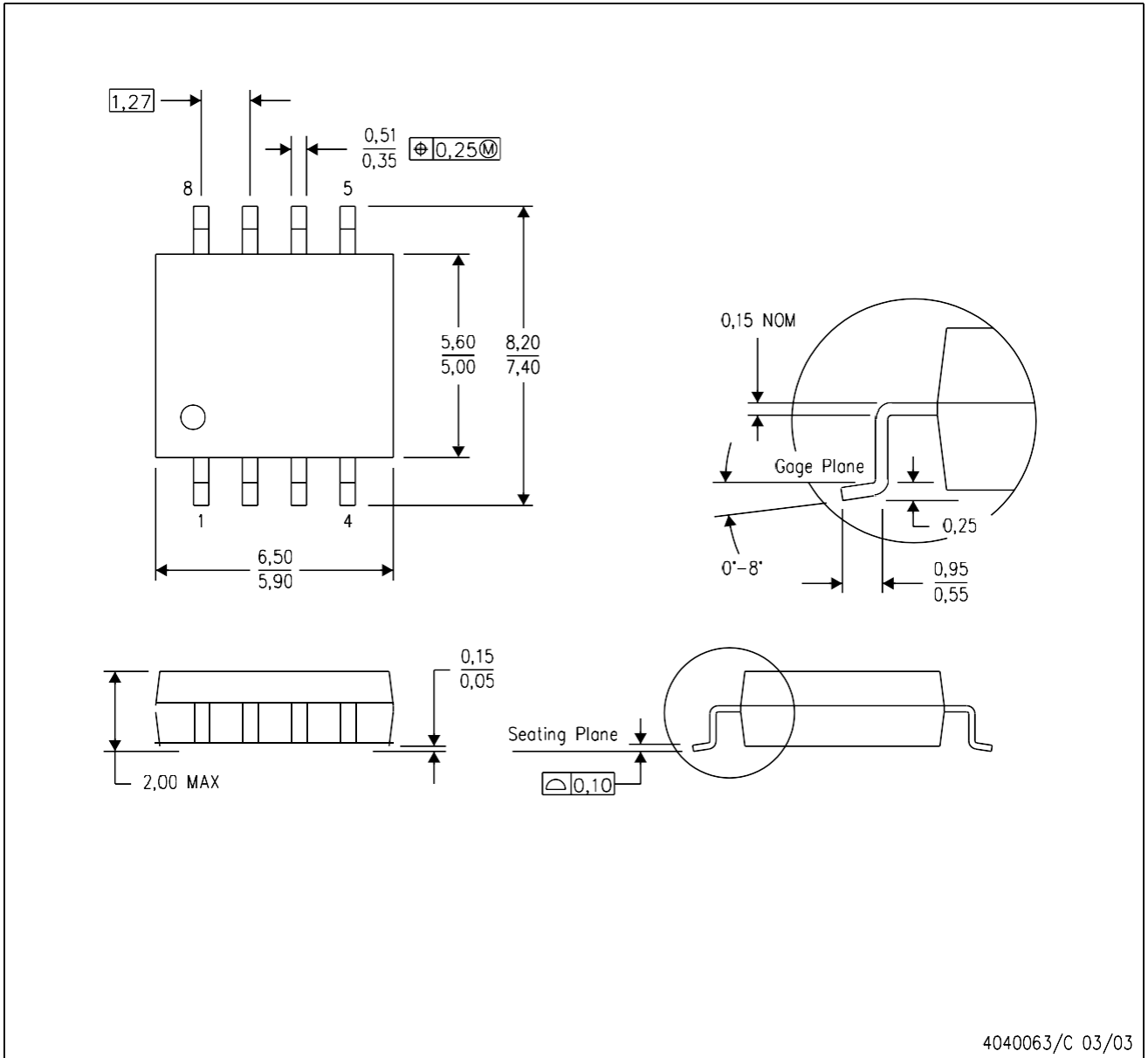
- NOTES:
- A. All linear dimensions are in inches (millimeters).
  - B. This drawing is subject to change without notice.
  - C. Body dimensions do not include mold flash or protrusion not to exceed 0.006 (0,15).
  - D. Falls within JEDEC MS-012 variation AA.



## MECHANICAL DATA

PS (R-PDSO-G8)

PLASTIC SMALL-OUTLINE PACKAGE



- 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.

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