Digital Signal Processor Products

The following Digital Signal Processor devices are available from Texas Instruments.

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<th>PART NUMBER</th>
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<th>ERRATA STATUS</th>
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<td>320C10</td>
<td>TMS320C1X USER'S GUIDE</td>
<td>* ERRATA DATE: 05-20-94</td>
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</table>
* ERRATA DATE: 01-22-98 FORM#: 1600
* ERRATA DATE: 08-05-98 FORM#: 1604

* ERRATA DATE: 05-20-94 FORM#: 1361 CONTACT: MADHUVEER BASUDE (915) 561-6555
**CORRECTION (LIST PARAMETERS): PAGE: B21**

FROM: | TO:
---|---
1 TD2 | 1/4TCC+12NS 1/4TCC+15NS
2 TD3 | 12NS 15NS
3 TD4 | 1/4TCC+12NS 1/4TCC+15NS
4 TD5 | 12NS 15NS
5 TD6 | 1/2TCC+12NS 1/2TCC+15NS
6 TD7 | 12NS 15NS

NOTE: THIS CHANGE DOES NOT DEGRADE THE DESC SMD.

* ERRATA DATE: 01-22-98 FORM#: 1600 CONTACT: SIDNEY GIBSON (915) 561-7345
**CORRECTION (LIST PARAMETERS): PAGE: B-14**

FROM: | TO:
---|---
VOL | .5V .6V

* ERRATA DATE: 08-05-98 FORM#: 1604 Requester: Sunitha Godavarty (915) 561-6622
**Correction(s) (List Parameters):**

- **CASE TEMPERATURE Tc**: MAX 125C/ MIN -55C
- **OPERATING TEMPERATURE/FREE AIR TEMP TA**: NOT DESCRIBED MAX125C

DO NOT SPEC. TA

Additional Comments: TcMAX at maximum rated operating conditions at any point on case. TcMIN at initial (time zero) power-up.

---

**320C25**

DATA SHEET: SMJ320C25/SMJ320C25-50 NO ERRATA
DIGITAL SIGNAL PROCESSOR
SGUS007D AUG 1988 - REVISED OCT 2001

---

**320C26B**

DATA SHEET: SMJ320C26B NO ERRATA
DIGITAL SIGNAL PROCESSOR
SGUS016 APRIL 1990 - REVISED NOVEMBER 1992

---

**320C30**

DATA SHEET: SMJ320C30 NO
## ERRATA

DIGITAL SIGNAL PROCESSOR
SGUS014F - FEBRUARY 1991 - REVISED FEBRUARY 1999

---

### 320C31
DATA SHEET: SMJ320C31
DIGITAL SIGNAL PROCESSOR
SGUS026D - APRIL 1998 - REVISED DECEMBER 2000

---

### 320C32
DATA SHEET: SMQ320C32
DIGITAL SIGNAL PROCESSOR
SGUS027B - APRIL 1998 - REVISED MARCH 1999

---

### 320C40
DATA SHEET: SMJ320C40, TMP320C40
DIGITAL SIGNAL PROCESSOR
SGUS017D - OCT 1993 - REVISED DECEMBER 1998

---

### 320C50A
SMJ320C50 DATA SHEET
obsolete, see 320C50

---

* ERRATA DATE: 04-27-94/FORM#:1356
* ERRATA DATE: 08-29-94/FORM#:1381
* ERRATA DATE: 09-21-94/FORM#:1384
* ERRATA DATE: 10-14-96/FORM#:1585

---

* ERRATA DATE: 4-27-94/FORM#:1356
PAGE: 10 ----------------------------------
CORRECTION (LIST PARAMETERS) = PAGE: 10

FROM: :::::::::: TEST CONDITION MIN  TYP  MAX  UNIT
II ALL OTHER INPUTS -10  50  MA
IDDC OPERATING, TA = 25 C 60  MA
VDD=5.25V, FX = 40.96MHZ
IDDP OPERATING, TA = 25 C 40  MA
VDD=5.25V, FX = 40.96MHZ

TO: ::::::::::
II ALL OTHER INPUTS -30  30  UA
IDD SUPPLY CURRENT OPERATING, TC = 125 C
VDD=5.50V, FX = 40MHZ

100   200   MA

IDD SUPPLY CURRENT OPERATING, TC = 125 C
VDD=5.50V, FX = 50MHZ

120   250   MA

PAGE: 13 -----------------------------------------------
CORRECTION (LIST PARAMETERS) = PAGE: 13

FROM:::-------------------------------------- MIN  TYP  MAX  UNIT
TW(COL) PULSE DURATION, CLKOUT1 LOW        H-2   H   H+2   NS
TW(COH) PULSE DURATION, CLKOUT1 HIGH       H-2   H   H+2   NS

TO:::--------------------------------------
TW(COL) PULSE DURATION, CLKOUT1 LOW         H-3   H   H+2   NS
TW(COH) PULSE DURATION, CLKOUT1 HIGH       H-3   H   H+2   NS

PAGE: 14 -----------------------------------------------
CORRECTION (LIST PARAMETERS) = PAGE: 14

FROM:::-------------------------------------- MIN  TYP  MAX  UNIT
TW(COL) PULSE DURATION, CLKOUT1 LOW        H-2   H   H+2   NS
TW(COH) PULSE DURATION, CLKOUT1 HIGH       H-2   H   H+2   NS

TP TRANSITORY PHASE-PLL SYNCHRONIZED AFTER 256      1000  CYCLES
CLKIN2 SUPPLIED

TO:::--------------------------------------
TW(COL) PULSE DURATION, CLKOUT1 LOW*         H-3   H   H+2   NS
TW(COH) PULSE DURATION, CLKOUT1 HIGH*        H-3   H   H+2   NS

*VALUES ASSURED BY DESIGN AND NOT TESTED.

TP TRANSITORY PHASE-PLL SYNCHRONIZED AFTER 1000TC(CL)NS
CLKIN2 SUPPLIED**

**REMOVE NOTE THAT STATES THAT THE VALUE IS DERIVED FROM
CHARACTERIZATION AND NOT TESTED

PAGE: 18 -----------------------------------------------
CORRECTION (LIST PARAMETERS) = PAGE: 18

FROM:::-------------------------------------- MIN  TYP  MAX  UNIT
TH(R)R HOLD TIME, READY AFTER RD_ FALLS      5         NS

TO:::--------------------------------------
TH(R)R HOLD TIME, READY AFTER RD_ FALLS      0         NS

PAGE: 19 -----------------------------------------------
CORRECTION (LIST PARAMETERS) = PAGE: 19

FROM:::-------------------------------------- MIN  TYP  MAX  UNIT

PARAMETER

TW(RSL) PULSE DURATION, RS_ LOW        20H             NS

TO:::--------------------------------------

TW(RSL) PULSE DURATION, RS_ LOW         12H             NS

PAGE: 20 -----------------------------------------------
CORRECTION (LIST PARAMETERS) = PAGE: 20

FROM:::-------------------------------------- MIN  TYP  MAX  UNIT

TSU(A)IAQ SETUP TIME, ADDRESS VALID BEFORE IAQ_ LOW H-14   NS
TH (A)IAQ HOLD TIME, ADDRESS VALID AFTER IAQ_ HIGH H-8    NS
TSU(A)IACK SETUP TIME, ADDRESS VALID BEFORE IACK_ LOW H-14   NS
TH (A) IACK HOLD TIME, ADDRESS VALID AFTER IACK_ HIGH H-8 NS

TO: :::::::::::::::::: MIN TYP MAX UNIT
TSU (A) IAQ SETUP TIME, ADDRESS VALID BEFORE IAQ_ LOW H-12 NS
TH (A) IAQ HOLD TIME, ADDRESS VALID AFTER IAQ_ HIGH H-10 NS
TSU (A) IACK SETUP TIME, ADDRESS VALID BEFORE IACK_ LOW H-12 NS
TH (A) IACK HOLD TIME, ADDRESS VALID AFTER IACK_ HIGH H-10 NS

PAGE: 26 -------------------------------------
CORRECTION (LIST PARAMETERS) = PAGE: 26
FROM: ::
TH (LB) HOLD TIME, TDAT/TADD AFTER TCLK RISING -5 NS
TSU (SB) SETUP TIME, TDAT/TADD BEFORE TCLK RISING 25 NS
TH (SB) HOLD TIME, TDAT/TADD AFTER TCLK RISING 0 NS

TO: ::
TH (LB) HOLD TIME, TDAT/TADD AFTER TCLK RISING -3 NS
TSU (SB) SETUP TIME, TDAT/TADD BEFORE TCLK RISING 20 NS
TH (SB) HOLD TIME, TDAT/TADD AFTER TCLK RISING -3 NS

PAGE: 27 -------------------------------------
CORRECTION (LIST PARAMETERS) = PAGE: 27
FROM: ::
TH (AD) HOLD TIME, TDAT/TADD VALID AFTER TCLK RISING -2 NS
TD (AD) DELAY TIME, TCLK TO VALID TDAT/TADD 25 NS

TO: ::
TH (AD) HOLD TIME, TDAT/TADD VALID AFTER TCLK RISING 0 NS
TD (AD) DELAY TIME, TCLK TO VALID TDAT/TADD 20 NS

* ERRATA DATE: 08-29-94/FORM#: 1381 REQUESTER: B.VANROOSEN DaAL (915) 561-6888
CORRECTION (LIST PARAMETERS): PAGE: 29
MECHANICAL DATA FROM: TO:
SMJ320C31 SMJ320C31 CERAMIC PIN SMJ320C50A CERAMIC PIN
GRID ARRAY, CAVITY UP GRID ARRAY, CAVITY UP
GRID INDICATORS S, Y, U, V T, U, V, W
THERMAL RESISTANCE CHARACTERISTICS FOR R(THETA)JC R(THETA)JC 1.0
PARAMETER | C/W PARAMETER | C/W

* ERRATA DATE: 09-21-94/FORM#: 1384 REQUESTER: B.VANROOSEN DaAL (915) 561-6888
CORRECTION (LIST PARAMETERS) = PAGE: 28
FROM: TO:
TERMAL RESISTANCE R(THETA)JC 2.0 R(THETA)JC 1.0
CORRECTION IN PACKAGE 51, 18 (2.015) 51, 18 (2.015)
DIMENTION < -------------------
50, 56 (1.990) 50, 55 (1.990)
CORRECTION IN PACKAGE 0, 254 (0.010) 0, 254 (0.010)
* ERRATA DATE: 10-14-96/FORM#: 1585 REQUESTER: BRETT BRACKETT (915) 561-6733
DATA BOOK/SHEET: SMJ320C50, SGUS018, JAN 1994
DEVICE: SMJ320C50A
CORRECTION (LIST PARAMETERS):
CORRECTION IN PACKAGE
FROM: 0, 254 (0.010)  TO: 0, 254 (0.010)
DIMENSION < ---------------- ----------------
0, 220 (0.005) 0, 127 (0.005)

DATA SHEET: SMJ320C50/SMQ320C50  ERRATA DATE: 08-05-98
DIGITAL SIGNAL PROCESSOR
SGUS020  JUNE 1996

ERRATA DATE: 08-05-98/FORM#: 1604  Requester: Sunitha Godavarty (915) 561-6622
Correction(s) (List Parameters):
CASE TEMPERATURE Tc
MAX 125C/  MIN -55c
OPERATING TEMPERATURE/FREE AIR TEMP TA
NOT DESCRIBED  MAX125c
DO NOT SPEC. TA

Additional Comments: TcMAX at maximum rated operating conditions at any point on case. TcMIN at initial (time zero) power-up.

DATA SHEET: 320C50  NO ERRATA

ERRATA DATE: 08-05-98/FORM#: 1604  Requester: Sunitha Godavarty (915) 561-6622
Correction(s) (List Parameters):
CASE TEMPERATURE Tc
MAX 125C/  MIN -55c
OPERATING TEMPERATURE/FREE AIR TEMP TA
NOT DESCRIBED  MAX125c
DO NOT SPEC. TA

Additional Comments: TcMAX at maximum rated operating conditions at any point on case. TcMIN at initial (time zero) power-up.

DATA SHEET: SMJ320E14  ERRATA DATE: 08-05-98
DIGITAL SIGNAL PROCESSOR
SGUS015  SEP 1992

ERRATA DATE: 08-05-98/FORM#: 1604  Requester: Sunitha Godavarty (915) 561-6622
Correction(s) (List Parameters):
CASE TEMPERATURE Tc
MAX 125C/  MIN -55c
OPERATING TEMPERATURE/FREE AIR TEMP TA
NOT DESCRIBED  MAX125c
DO NOT SPEC. TA

Additional Comments: TcMAX at maximum rated operating conditions at any point on case. TcMIN at initial (time zero) power-up.
CORRECTION:

CURRENT LIMITING RESISTOR

FROM: A11 (PIN 27)
TO: A9 (PIN 29)

---

34010
SMJ34010 DATA SHEET
SGUS008A, SEPTEMBER 1989

NO ERRATA

---

34020A
DATA SHEET: SMJ34020A
DIGITAL SIGNAL PROCESSOR
SGUS011D APRIL 1991 - REV SEPT 2004

NO ERRATA

---

34061
DATA SHEET SM/SMJ34061
VIDEO SYSTEM CONTROLLER,
SGUS010, JULY 1987

ERRATA DATE: 3-29-94

* ERRATA DATE: 3-29-94/FORM#:1353
REQUESTER: DON TROHA

CORRECTION (LIST PARAMETERS): PAGE-11

| 1 | TCSC       | 100 NS MIN | 118 NS MIN |
| 2 | TW(SCH)    | 48 NS MIN  | 57 NS MIN  |
| 3 | TW(SCL)    | 48 NS MIN  | 57 NS MIN  |

---

34082A
SMJ34082A DATA SHEET
SGUS012A, JAN 1993

* ERRATA DATE: 12-20-94
FORM#: 1412
* ERRATA DATE: 01-31-95
FORM#: 1427

ERRATA DATE: 12-20-94/FORM#: 1412
REQUESTER: TROY LINDSTROM (915) 561-6684

CORRECTION (LIST PARAMETERS):

HOST-INDEPENDENT MODE (MSTR HIGH) — PROPAGATION DELAY TIMES

<table>
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<tr>
<th>TP (CLKH-MOEH)</th>
<th>FROM: 10NS MAX</th>
<th>TO: 12NS MAX</th>
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</table>

======
HOST-INDEPENDENT MODE (MSTR HIGH) -- ENABLE & DISABLE TIMES

TEN (CLKH-LADZX): ADD THE FOLLOWING NOTE FOR THE MINIMUM LIMIT: ========
- THIS PARAMETER IS ASSURED BY CHARACTERIZATION DATA (MSTR HIGH)
AND IS NOT TESTED.

HOST-INDEPENDENT MODE (MSTR HIGH) -- SETUP & HOLD TIMES

TH (ITRL-RSTH): ADD COMMENT: ========
- THIS PARAMETER IS GUARANTEED BUT NOT TESTED.

* ERRATA DATE: 01-31-95/FORM#:1427 REQUESTER: TROY LINDSTROM (915)561-6684
CORRECTION (LIST PARAMETERS) = PAGE: 30 FROM: TO:
HOST-INDEPENDENT MODE (MSTR HIGH) -- DELAY TIMES

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<tr>
<th>Parameter</th>
<th>Old Value</th>
<th>New Value</th>
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<tr>
<td>TD (MSAV-MWRL)</td>
<td>4NS MIN (PER ERRATA)</td>
<td>3NS MIN</td>
</tr>
<tr>
<td>TD (DCSH-MWRL)</td>
<td>6NS MIN</td>
<td>4NS MIN</td>
</tr>
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</table>

68689
SM/SMJ68689 DATA SHEET
MICROPROCESSOR, D3997
JUNE 1992, SGUS018

ERRATA DATE: 05-06-96/FORM#:1562 REQUESTER: KEITH STEPHENS (915)561-6864
CORRECTION LIST - PAGE 1

84-PIN CERAMIC PGA PACKAGE
(TOP VIEW) CHANGE TO: 84-PIN CERAMIC PGA (GB) PACKAGE
(BOTTOM VIEW)

CORRECTION LIST - PAGE 24
BIT ST6, NAME XOP,
INSTRUCTION RTWP CHANGE TO: IF BIT (6) OF WR15 IS 1.

CORRECTION LIST - PAGE 46
SWITCHING CHARACTERISTICS CHANGE TO: SWITCHING CHARACTERISTICS OVER
OVER RECOMMENDED OPERATING RECOMMENDED OPERATING FREE-AIR
FREE-AIR TEMPERATURE RANGE TEMPERATURE RANGE AND VCC RANGE
(UNLESS OTHERWISE NOTED) (UNLESS OTHERWISE NOTED)

CORRECTION LIST - PAGE 56
MECHANICAL DATA:
PACHAGE OUTLINE SQUARE
MINIMUM DIMENSION 27.43 CHANGE TO: 27.69 (1.090)
(1.080)

9914
DESIGNER'S REFERENCE GUIDE
OBsolete
1990, PAGE: 14-309
ERRATA DATE: 08-20-91
ADD TO CLOCK AND HOST INTERFACE TIMING REQUIREMENTS

\[ \text{TW}(\&H) \quad ('\&' = \text{PHI CLOCK}) \quad 80 \text{ NS MIN} \]

ADD TO CLOCK AND HOST INTERFACE TIMING REQUIREMENTS:

\[ \text{TW}(\text{RSL}) \quad \text{DURATION OF RESET LOW} \quad 10(\&) \text{ MIN} \quad ('\&' = \text{PHI CLOCK}) \]

ADD TO CLOCK AND HOST INTERFACE TIMING REQUIREMENTS:

ADD NOTE INDEXED BY ' | | ' TO READ:

--- ---
 | |

"THE RESET SIGNAL MUST BE HELD LOW FOR A MINIMUM OF 10 CLOCK CYCLES, AND CAN BEGIN AT ANY TIME WITHIN THE CYCLE ( TC(\&) )"

\quad ('\&' = \text{PHI CLOCK})