

# ASIC PRODUCTS

TMS offers a wide range of ASIC's products : bipolar, MOS, BICMOS, linear, digital, gate arrays, standard cells, full custom.

All ASIC's products are available with the following screening levels :

- Military temperature range ;
- CECC 90000 class B or class D ;
- MIL 883 class B revision C.

A complete set of hermetic packages is offered :

- Leadless and Leaded Ceramic Chip Carrier (LCCC, LDCC) ;
- Ceramic Pin Grid Array (CPGA) ;
- Ceramic Quad Flat Pack (CQFP) ;
- Ceramic Dual In Line (CDIP) ;
- Cerdip Quad Flat Pack (CERQUAD).

All ASIC's products are also available in die form levels V, N, T, W, Z (see page 62).

## DIGITAL - HCMOS GATE ARRAYS

PART NB	INTERNAL GATES	I/O CELLS	POWER PADS	PACKAGE OPTIONS-PINS			
				CDIP	LCCC / LDCC	CPGA	CQFP

### TSGB SERIES - 2 MICRON DOUBLE METAL LAYER

<b>TSGB 01</b>	1120	56	12	24-64	68	68	68
<b>TSGB 02</b>	2128	76	12	24-64	44-84	68-84	68
<b>TSGB 03</b>	3264	96	12	40-64	68-84	68-84	68
<b>TSGB 04</b>	4256	108	12	40-64	68-84	68-144	68-132
<b>TSGB 06</b>	5880	132	12	64	68-84	68-144	68-132
<b>TSGB 08</b>	7872	168	16	—	68-84	84-180	84-180
<b>TSGB 10</b>	9776	192	16	—	68-84	84-224	84-224

### TSGC SERIES - 1.2 MICRON DOUBLE METAL LAYER

<b>TSGC 01</b>	1120	56	12	24-64	28-68	68	68
<b>TSGC 02</b>	2128	76	12	24-64	44-84	68-84	68
<b>TSGC 03</b>	3264	96	12	40-64	68-84	68-84	68
<b>TSGC 04</b>	4256	108	12	40-64	68-84	68-144	68-132
<b>TSGC 06</b>	5880	132	12	64	68-84	68-144	68-132
<b>TSGC 08</b>	7872	168	16	—	68-84	84-180	84-180
<b>TSGC 10</b>	9776	192	16	—	68-84	84-224	84-224

**DIGITAL - ECL GATE ARRAYS**

PART NB	INTERNAL CELLS	I/O	PACKAGE	
			CPGA	CQFP

TSFD SERIES - 1.2 MICRON TRIPLE METAL LAYER - SPEED POWER OPTIONS, COMPATIBLE TTL, ECL 10 K, ECL 100 K

TSFD 35	448	120	84-144	84-144
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**DIGITAL - HCMOS COMPILED FUNCTIONS**

TSBC 3 SERIES - 1.2 MICRON DOUBLER METAL LAYER

- High performance and high density up to 80 K gates.
- Full range of standard cells, telescoping cells, soft macros RAM, ROM, FIFO, PLA, MULTIPLIER, ALU.
- Compiled cells on customer request.
- Full range of package, CPGA, LCCC, LDCC, CQFP.
- MENTOR, GENESIL, TMS design kit CAD tools.

TSBC 4 SERIES - 0.8 MICRON DOUBLER METAL LAYER

- High performance and high density up to 150 K gates.
- Full range of standard cells, telescoping cells, soft macros RAM, ROM, FIFO, PLA, MULTIPLIER, ALU.
- Compiled cells on customer request.
- Full range of package, CPGA, LCCC, LDCC, CQFP.
- MENTOR, GENESIL, TMS design kit CAD tools.

TSRH 3 SERIES - 1.4 MICRON DOUBLER METAL LAYER HCMOS / SOI

- Rad hard process
- Up to 35 K gates.
- MENTOR and TMS design kit CAD tools.

# ASIC PRODUCTS

## ANALOG - BIPOLAR LINEAR «POLYUSE» ARRAYS

PART NB	INTERNAL CELLS	NUMBER OF COMPONENTS	NUMBER OF PADS	PACKAGE OPTIONS-PINS		
				DIL C	LDCC	LCCC

TSFL SERIES - 3 MICRON DOUBLE METAL LAYER  $F_T = 3$  GHz

<b>TSFL 06</b>	16	640	20	14-20		20
<b>TSFL 12</b>	30	1180	28	16-28		28
<b>TSFL 19</b>	48	1920	40	24-40		28-44

TSFV SERIES - 1.2 MICRON DOUBLE METAL LAYER  $F_T = 8$  GHz

<b>TSFV 26</b>	15	2600	44	28-44	28-44	28-44
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## ANALOG - FULL CUSTOM

SEVERAL BIPOLAR LINEAR PROCESSES ARE AVAILABLE FOR FULL CUSTOM DESIGNS

- Standard 40 V.
- High frequency (3 GHz / 8 GHz).
- BCD 60 V / 100 V.
- BICMOS 10 V.

## ANALOG / DIGITAL - BICMOS DATA ACQUISITION STANDARD CELLS

TSKSM 2000 SERIES - 2 MICRON DOUBLE METAL LAYER

- High performance 10 V bipolar  $F_T = 6$  GHz.
- 10 V HCMOS, double poly layer.
- 12 bit / 12  $\mu$ s data acquisition function set.
- 8 bit / 50 ns video data acquisition function set.
- Digital 5 V / 10 V CMOS libraries.
- Programmable analog BICMOS library.
- Switched capacitor filter compiler.
- Analog design system ; SUN / CADENCE, MENTOR.