

**SUMMARY
TEST DATA**

ON

0.5 TO 18 GHz

(OTHER FREQUENCY RANGES ALSO AVAILABLE)

**HIGH SPEED
THRESHOLD DETECTOR
WITH
EXTERNAL RESISTOR ADJUSTMENT
FOR THRESHOLD LEVEL
OVER
-18 dBm TO +5 dBm DYNAMIC RANGE**

PMI MODEL NO:

◆ TD-30T-0518-MH ◆

(SERIAL NUMBERS: *PM010572, PM010573, PM011641, PM011640, PM011639, PM011638, PM011637, PM011636, PM011635, PM011642, PM011643, P108377, P108378, AND P108379*)

**DESIGNED
BY
KEVIN MASON AND DAN VESCUSO**

**TESTED
BY
KEVIN MASON**

**TEST REPORT
BY
EMILY KING**

FEBRUARY 27, 2002

PLANAR MONOLITHICS INDUSTRIES, INC.

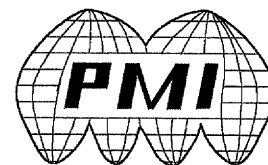
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TEL: 301-631-1579 • FAX: 301-662-2029

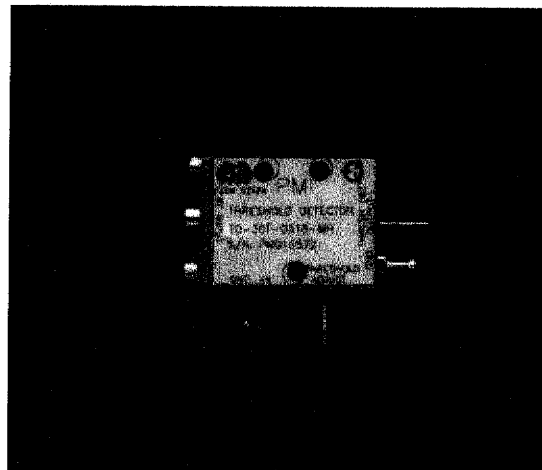
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MODEL NO: TD-30T-0518-MH

HIGH SPEED THRESHOLD DETECTOR



- ◆ FREQUENCY: 0.5 GHz TO 18 GHz
- ◆ DYNAMIC RANGE OF -18 TO +5 dBm
- ◆ TYPICAL VSWR OF 2.1:1 (2.5:1 MAXI.)
- ◆ FIELD REMOVABLE GPO CONNECTOR ON THE INPUT AND SOLDER PIN ON THE OUTPUT



● SPECIFICATIONS:

- ◆ INPUT FLATNESS : ±2.0 dB Maximum, (±1.0 dB Typical)
- ◆ RESPONSE TIME : 100 nsec maximum, 50 nsec typical
- ◆ OUTPUT : TTL
- ◆ POWER SUPPLY : +7 v to +15 v @ 100 mA maximum
- ◆ SIZE : 0.80" x 0.62" x 0.40"
- ◆ WEIGHT : 0.50 ounces

● ENVIRONMENTAL RATINGS:

- ◆ TEMPERATURE : -54°C TO +85°C (OPERATING)
- ◆ : -65°C TO +100°C (STORAGE)
- ◆ HUMIDITY : MIL-STD-202F, METHOD 103B, CONDITION B.
- ◆ SHOCK : MIL-STD-202F, METHOD 213B, CONDITION B.
- ◆ VIBRATION : MIL-STD-202F, METHOD 204D, CONDITION B.
- ◆ ALTITUDE : MIL-STD-202F, METHOD 105C, CONDITION B.
- ◆ TEMPERATURE CYCLE : MIL-STD-202F, METHOD 107D, CONDITION A.

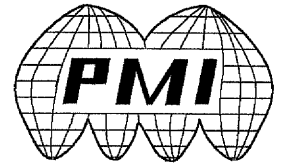
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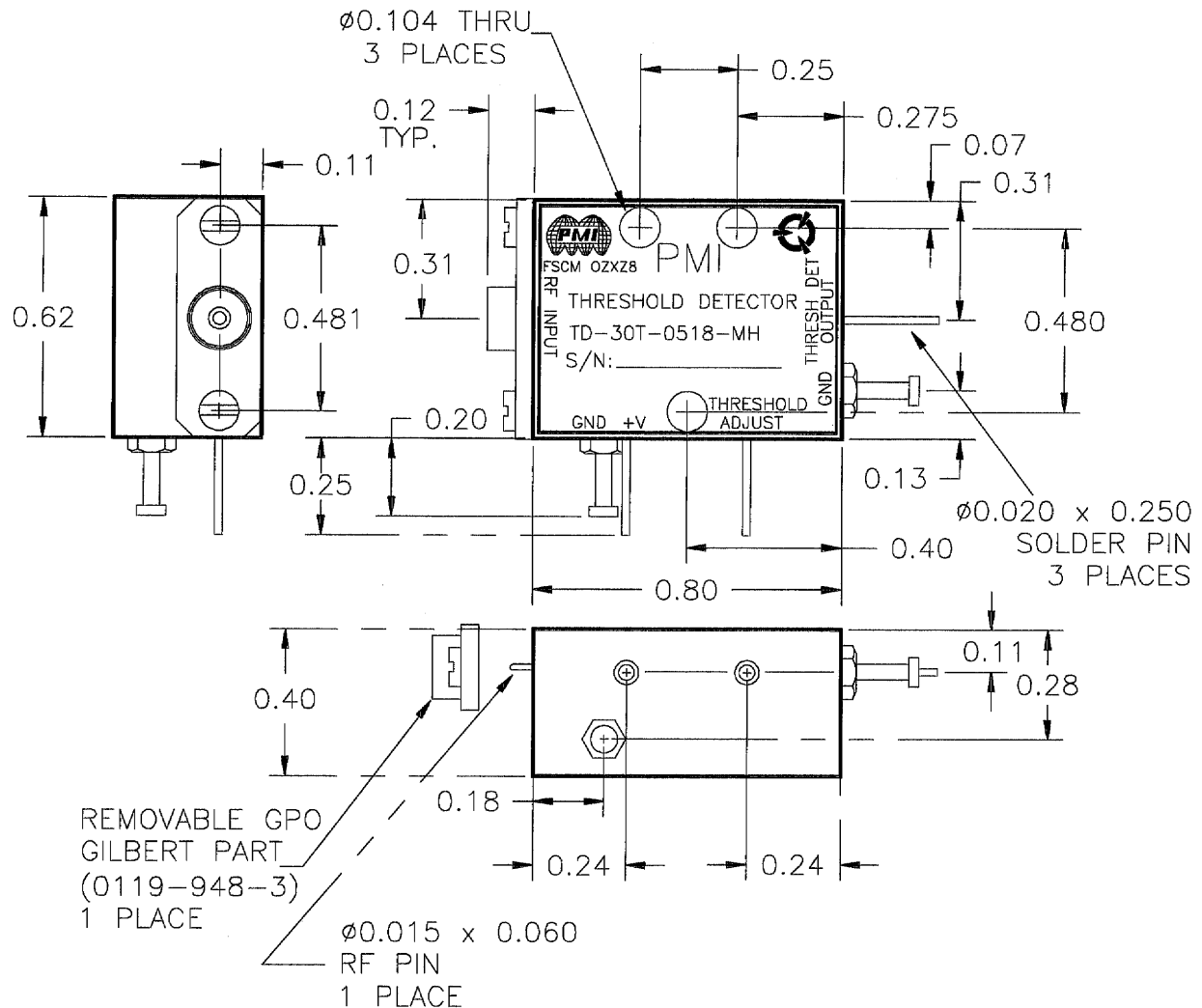
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MODEL NO: TD-30T-0518-MH HIGH SPEED THRESHOLD DETECTOR



● MECHANICAL OUTLINE



DIMENSIONS ARE IN INCHES. TOLERANCES: X.XX, ± 0.020 & X.XXX, ± 0.010

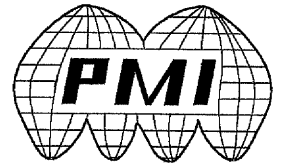
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MODEL NO: TD-30T-0518-MH HIGH SPEED THRESHOLD DETECTOR



REVISIONS

TIME	REV.	DESCRIPTION	DATE	APPROVED
		ORIGINAL RELEASE	8/9/00	

DESCRIPTION:
 PMI MODEL TD-30T-0518-MH IS A HIGH SPEED THRESHOLD DETECTOR DESIGNED TO OPERATE OVER THE 0.5 TO 18 GHz FREQUENCY RANGE, WITH A DYNAMIC RANGE OF -18 TO +5 dBm, AND TYPICAL VSWR OF 2.0:1 (2.5:1 MAXIMUM). THIS UNIT COMES IN A VERY SMALL SIZE WITH FIELD REMOVABLE GPO CONNECTOR ON THE INPUT AND SOLDER PIN ON THE OUTPUT.

SPECIFICATIONS:

- FREQUENCY: 0.5 GHz TO 18 GHz MINIMUM
- VSWR: 2.5:1 MAXIMUM (2.0:1 TYPICAL)
- DYNAMIC RANGE: -18 dBm TO +5 dBm MINIMUM,
- INPUT FLATNESS: ±2.0 dB MAXIMUM, (±1.0 dB TYPICAL)
- RESPONSE TIME: 100 nSEC MAXIMUM, (50 nSEC TYPICAL)
- OUTPUT: TTL
- POWER SUPPLY: +7V TO +15V @ 100 mA MAXIMUM
- RF INPUT CONNECTOR: REMOVABLE GPO
- OUTPUT CONNECTOR: SOLDER PIN
- SIZE: 0.80" x 0.62" x 0.40"
- WEIGHT: 0.50 OUNCE

ENVIRONMENTAL RATINGS:

- TEMPERATURE: -55°C TO +85°C (OPERATING)
- TEMPERATURE: -65°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 1036 COND. B
- SHOCK: MIL-STD-202F, METHOD 2136 COND. B
- VIBRATION: MIL-STD-202F, METHOD 2040 COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

CONFIDENTIAL AND PROPRIETARY

PART NO.	DATE	APPROVALS	DATE	APPROVALS
	8/9/00	11/9/00	8/9/00	
DRWN	11/9/00			
ISSUED				

PLANAR MONOLITHICS INDUSTRIES
 FREDERICK, MARYLAND

PRODUCT FEATURE
 TD-30T-0518-MH
 THRESHOLD DETECTOR

SIZE FROM IN. 60483
 ENG. NO. 100-4845-4
 SHEET 1 OF 2

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MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR



JOB NO: 00837PE

SUMMARY TEST DATA
ON
THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS
 JOB NO: 00837PE
 MODEL NO: TD-30T-0518-MH
 SERIAL NO: PM010572

TESTED BY: K. Macoan
 TEMPERATURE: +25°C
 DATE: 11/17/00

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	OK	
2	VSWR:	2.5:1 MAXIMUM 2.0:1 TYPICAL	1.289:1	
3	USABLE INPUT POWER RANGE:	-18 dBm TO +5 dBm	PASS	
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL	±0.5dB	
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100ns	
6	POWER SUPPLY: (NO VIDEO LOAD)	+8-V @ 100mA MAX	80mA	

NOTE: Any additional test data on back

TESTED ON: HP8720APROGRAM MANAGER/SUPERVISOR APPROVAL: [Signature] DATED: 11/17/00QA/QC APPROVAL: [Signature] DATED: 11/17/00VICE PRESIDENT/GENERAL MANAGER APPROVAL: [Signature] DATED: 11/17/00

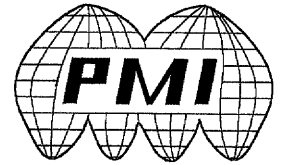
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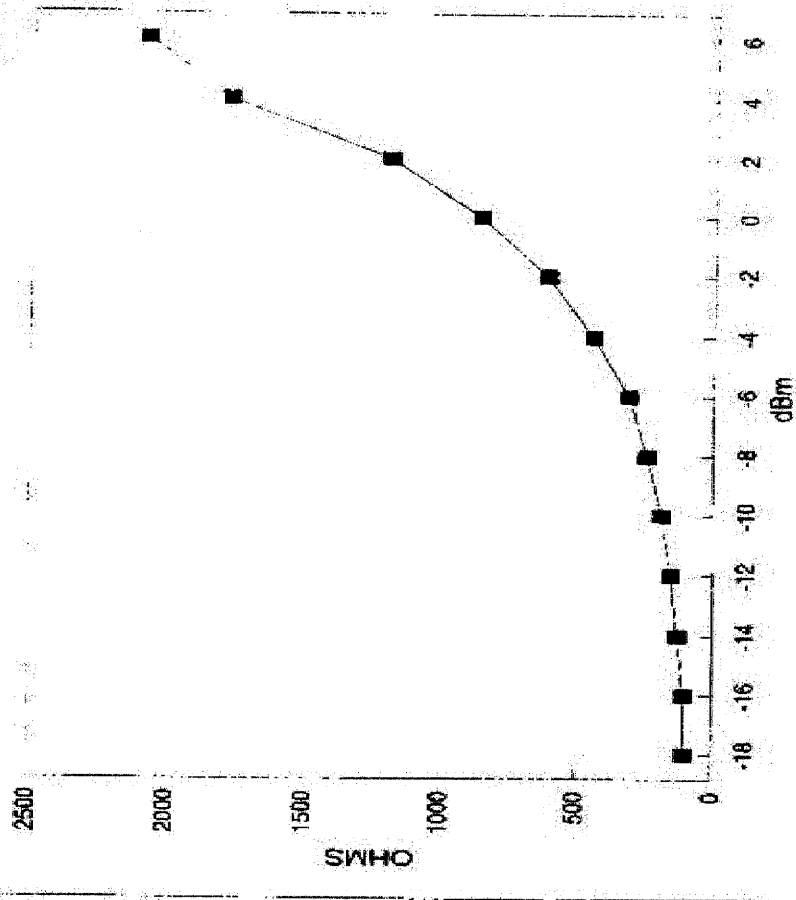
**MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR**



CUSTOMER LITTON ADVANCED SYS.
DATE 11/17/0

JOB NUMBER 00837PE
MODEL NUMBER TD-30T-0518-MH
SERIAL NUMBER PM010572

RESISTOR VALUE VS THRESHOLD LEVEL



RESISTOR VALUE OHMS	INPUT POWER dBm
102	-18
104	-16
127.2	-14
152.4	-12
187	-10
241	-8
309.9	-6
442	-4
611	-2
857	0
1195	2
1778	4
2085	6

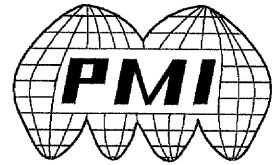
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MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR



JOB NO: 00837PE

SUMMARY TEST DATA
ON
THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS
 JOB NO: 00837PE
 MODEL NO: TD-30T-0518-MH
 SERIAL NO: PM 010573

TESTED BY: K. Mason
 TEMPERATURE: +25°C
 DATE: 11/17/00

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	OK	
2	VSWR:	2.5:1 MAXIMUM 2.0:1 TYPICAL	1.80:1	
3	USABLE INPUT POWER RANGE:	-18 dBm TO +5 dBm	PASS	
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL.	±1.0 dB	
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	<100ns	
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	80mA	

NOTE: Any additional test data on back

TESTED ON: HP8720DPROGRAM MANAGER/SUPERVISOR APPROVAL: [Signature] DATED: 11/17/00QA/QC APPROVAL: [Signature] DATED: 11/17/00VICE PRESIDENT/GENERAL MANAGER APPROVAL: [Signature] DATED: 11/17/00

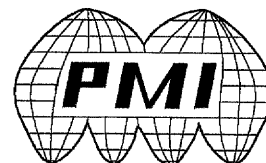
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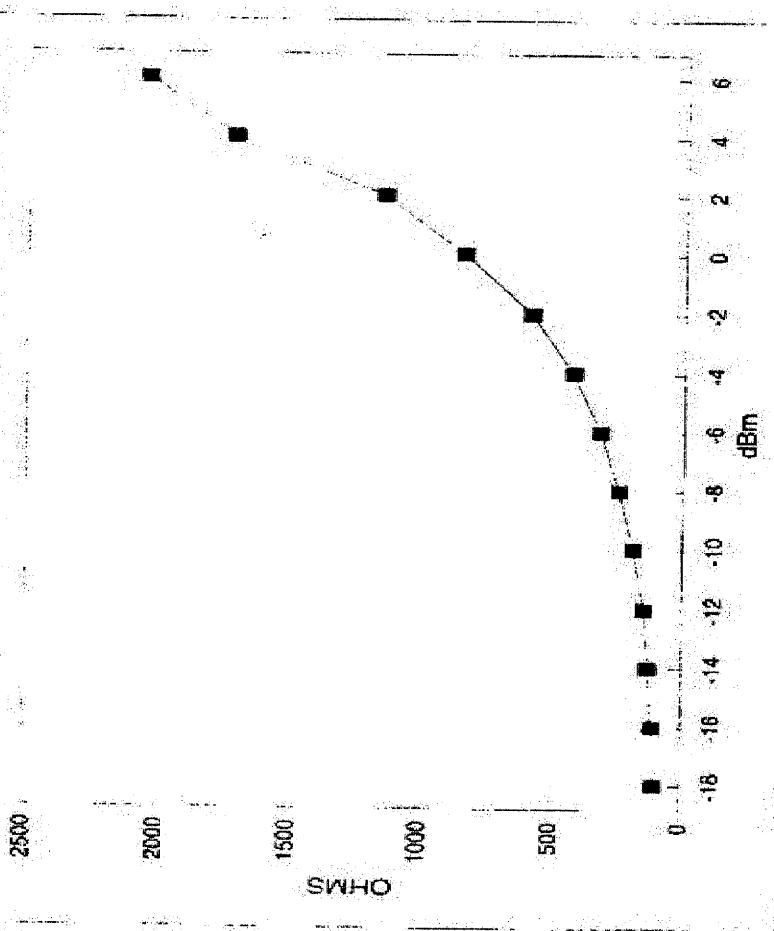
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**MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR**



DATE 11/17/00

RESISTOR VALUE VS THRESHOLD LEVEL



CUSTOMER LITTON ADVANCED SYS.
 JOB NUMBER 00837PE
 MODEL NUMBER TD-30T-0518-MH
 SERIAL NUMBER PM010573

RESISTOR VALUE OHMS	INPUT POWER dBm
99	-18
110	-16
127.5	-14
146.1	-12
190.2	-10
247.1	-8
321	-6
430	-4
592	-2
851	0
1158	2
1726	4
2056	6

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MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR



JOB NO: 01047P

SUMMARY TEST DATA
ON
THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS TESTED BY: K. Mason
 JOB NO: 01047P TEMPERATURE: +25°C
 MODEL NO: TD-30T-0518-MH DATE: 11/30/00
 SERIAL NO: Pm011641

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	pass	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	≤ 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	See table	✓
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL.	± 2.0dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100 nS	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70mA @ +8VDC	✓

NOTE: Any additional test data on back

TESTED ON: HP8720D

PROGRAM MANAGER/SUPERVISOR APPROVAL: [Signature] DATED: 11/30/00

QA/QC APPROVAL: [Signature] DATED: 11/30/00

VICE PRESIDENT/GENERAL MANAGER APPROVAL: [Signature] DATED: 11/30/00

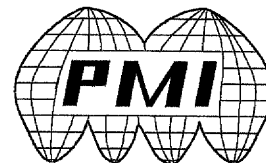
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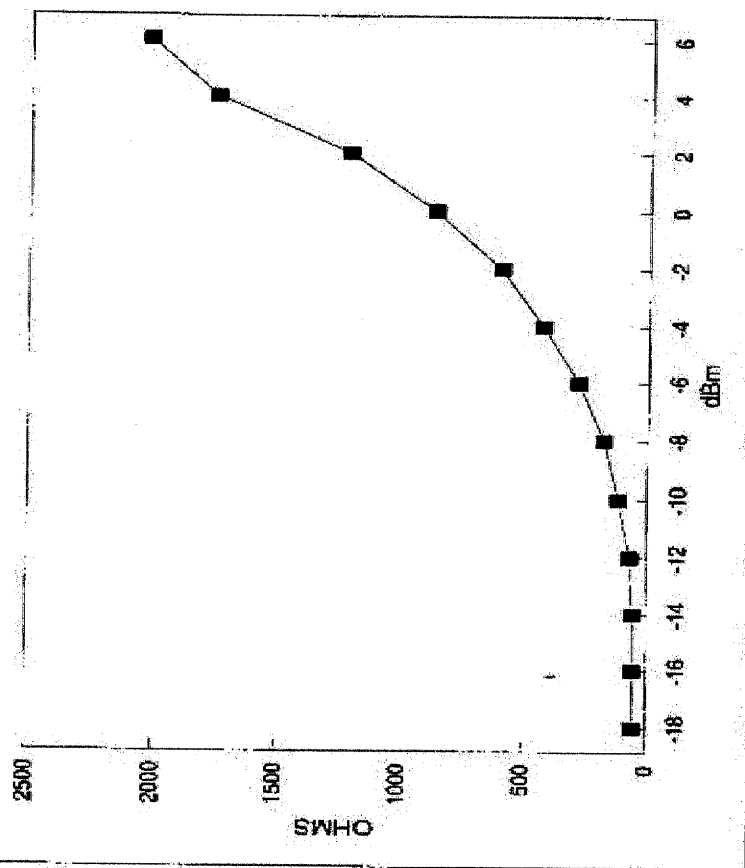
**MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR**



CUSTOMER LITTON ADVANCED SYS.
DATE 11/30/00

JOB NUMBER 01047P
MODEL NUMBER TD-30T-0518-MH
SERIAL NUMBER PM11641

RESISTOR VALUE VS THRESHOLD LEVEL



RESISTOR VALUE OHMS	INPUT POWER dBm
53.9	-18
56	-16
58	-14
70.7	-12
118.8	-10
179.4	-8
283.9	-6
429	-4
600	-2
867	0
1215	2
1758	4
2028	6

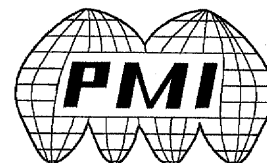
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MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR

JOB NO: 01047P

SUMMARY TEST DATA
ON
THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS TESTED BY: K. Mason
 JOB NO: 01047P TEMPERATURE: +25°C
 MODEL NO: TD-30T-0518-MH DATE: 11/30/00
 SERIAL NO: P7101640

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	pass	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	≤ 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	see table	✓
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL	±1.5 dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100 nS	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70mA @ +8VDC	✓

NOTE: Any additional test data on back

TESTED ON: HP8720DPROGRAM MANAGER/SUPERVISOR APPROVAL: [Signature] DATED: 11/30/00QA/QC APPROVAL: [Signature] DATED: 11/30/00VICE PRESIDENT/GENERAL MANAGER APPROVAL: [Signature] DATED: 11/30/00

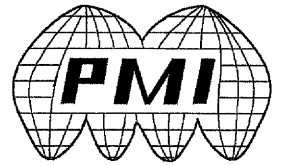
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**MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR**



DATE 11/30/00

DATE

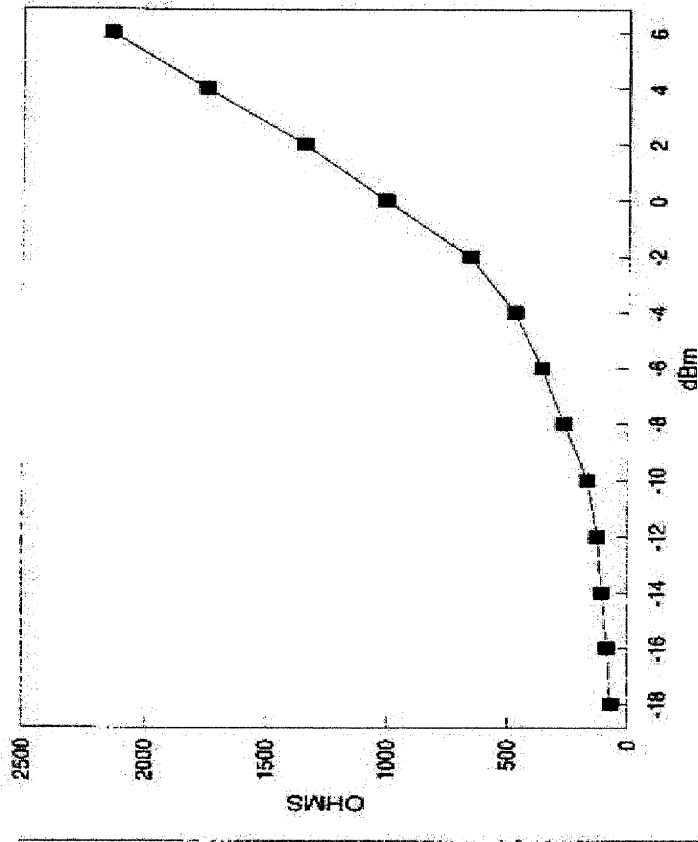
CUSTOMER LITTON ADVANCED SYS.

JOB NUMBER 01047P

MODEL NUMBER TD-30T-0518-MH

SERIAL NUMBER PM11640

RESISTOR VALUE VS THRESHOLD LEVEL



RESISTOR VALUE OHMS	INPUT POWER dBm
72.5	-18
85.9	-16
108.9	-14
127.4	-12
169	-10
265	-8
358	-6
469	-4
658	-2
1003	0
1344	2
1745	4
2139	6

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MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR

JOB NO: 01047P

SUMMARY TEST DATA
ON
THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS TESTED BY: K. Mason
 JOB NO: 01047P TEMPERATURE: +25°C
 MODEL NO: TD-30T-0518-MH DATE: 11/30/00
 SERIAL NO: PM011639

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	pass	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	≤ 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	See table	✓
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL	± 0.5 dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100 nS	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70mA @ +8VDC	✓

NOTE: Any additional test data on back

TESTED ON: HP8720DPROGRAM MANAGER/SUPERVISOR APPROVAL: [Signature] DATED: 11/30/00QA/QC APPROVAL: [Signature] DATED: 11/30/00VICE PRESIDENT/GENERAL MANAGER APPROVAL: [Signature] DATED: 11/30/00

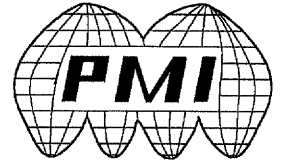
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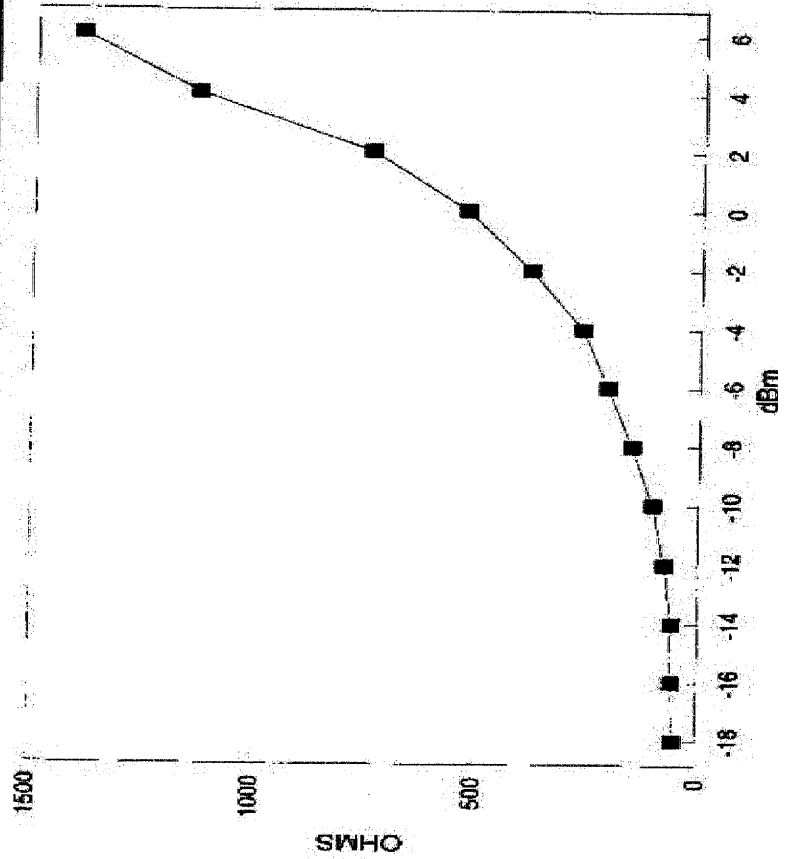
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**MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR**



DATE 11/30/00

RESISTOR VALUE VS THRESHOLD LEVEL



CUSTOMER LITTON ADVANCED SYS.
 JOB NUMBER 01047P
 MODEL NUMBER TD-30T-0518-MH
 SERIAL NUMBER PM11639

RESISTOR VALUE OHMS	INPUT POWER dBm
52.6	-18
57.5	-16
58.6	-14
75.3	-12
103.9	-10
151.8	-8
207.1	-6
266.1	-4
384	-2
528	0
746	2
1137	4
1400	6

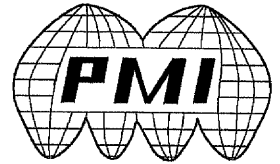
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MODEL NO: TD-30T-0518-MH HIGH SPEED THRESHOLD DETECTOR

JOB NO: 01047P

SUMMARY TEST DATA ON THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS TESTED BY: K. Mason
 JOB NO: 01047P TEMPERATURE: +25°C
 MODEL NO: TD-30T-0518-MH DATE: 11/30/00
 SERIAL NO: PM011435

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	pass	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	≤ 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	see table	✓
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL	±0.5dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100 nS	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70mA @ +8VDC	✓

NOTE: Any additional test data on back

TESTED ON: HP8720DPROGRAM MANAGER/SUPERVISOR APPROVAL: [Signature] DATED: 11/30/00QA/QC APPROVAL: [Signature] DATED: 11/30/00VICE PRESIDENT/GENERAL MANAGER APPROVAL: [Signature] DATED: 11/30/00

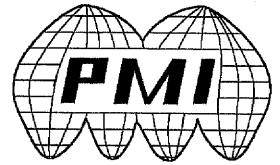
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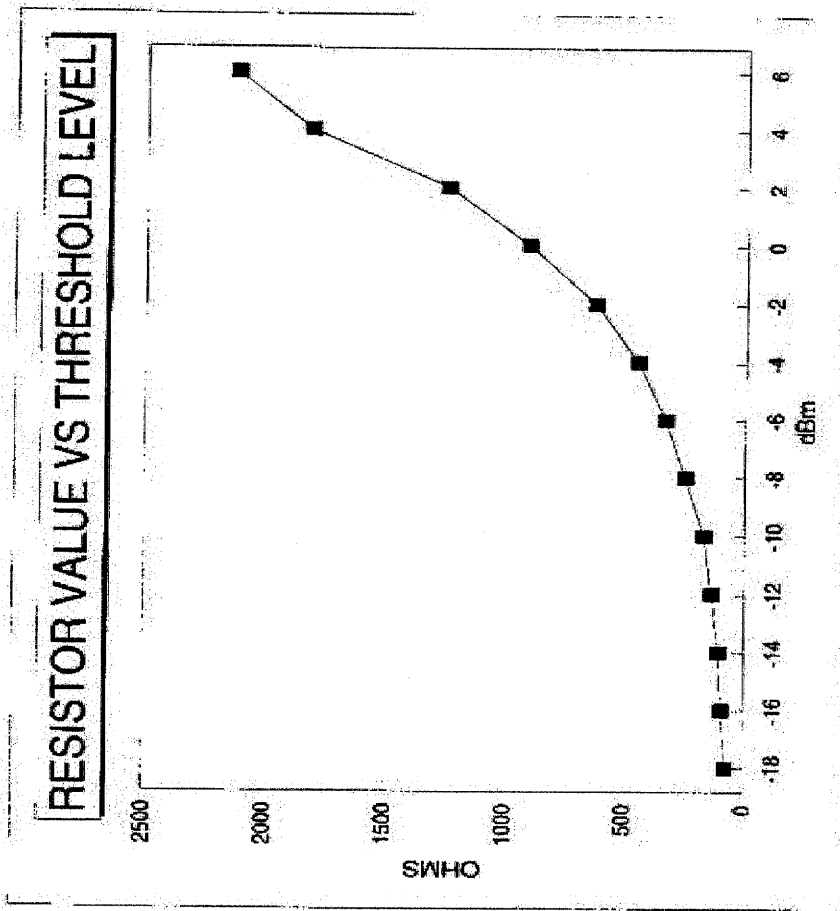
TEL: 301-631-1579 • FAX: 301-662-2029

WEBSITE: www.planarmonolithicsindustries.com, E-MAIL: sales@planarmonolithics.com

**MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR**



DATE 11/30/00



CUSTOMER LITTON ADVANCED SYS.
 JOB NUMBER 01047P
 MODEL NUMBER TD-30T-0518-MH
 SERIAL NUMBER PM11638

RESISTOR VALUE OHMS	INPUT POWER dBm
74.6	-18
92.2	-16
106.9	-14
136.3	-12
170.3	-10
249.7	-8
332.3	-6
447	-4
626	-2
908	0
1247	2
1816	4
2128	6

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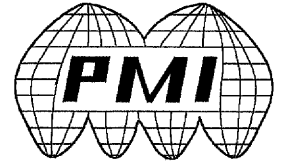
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MODEL NO: TD-30T-0518-MH

HIGH SPEED THRESHOLD DETECTOR

JOB NO: 01047P

SUMMARY TEST DATA ON THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS TESTED BY: K. Mason
 JOB NO: 01047P TEMPERATURE: +25°C
 MODEL NO: TD-30T-0518-MH DATE: 11/30/00
 SERIAL NO: P7011677

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	pass	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	≤ 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	see table	✓
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL.	±0.5 dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100 nS	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70mA @ +8VDC	✓

NOTE: Any additional test data on back

TESTED ON: HP8720DPROGRAM MANAGER/SUPERVISOR APPROVAL: [Signature] DATED: 11/30/00QA/QC APPROVAL: [Signature] DATED: 11/30/00VICE PRESIDENT/GENERAL MANAGER APPROVAL: [Signature] DATED: 11/30/00

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MODEL NO: TD-30T-0518-MH

HIGH SPEED THRESHOLD DETECTOR

JOB NO: 01047P

SUMMARY TEST DATA ON THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS TESTED BY: K. Mason
 JOB NO: 01047P TEMPERATURE: +25°C
 MODEL NO: TD-30T-0518-MH DATE: 11/30/00
 SERIAL NO: PM011636

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	pass	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	≤ 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	see table	✓
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL	± 1.0dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100 nS	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70mA @ +8VDC	✓

NOTE: Any additional test data on back

TESTED ON: HP8720DPROGRAM MANAGER/SUPERVISOR APPROVAL: [Signature] DATED: 11/30/00QA/QC APPROVAL: [Signature] DATED: 11/30/00VICE PRESIDENT/GENERAL MANAGER APPROVAL: [Signature] DATED: 11/30/00

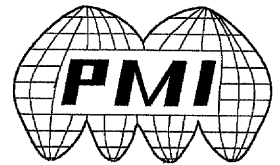
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MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR



JOB NO: 01047P

SUMMARY TEST DATA
ON
THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS TESTED BY: K. Mason
 JOB NO: 01047P TEMPERATURE: +25°C
 MODEL NO: TD-30T-0518-MH DATE: 11/30/00
 SERIAL NO: PM 011635

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	pass	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	≤ 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	see table	✓
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL	±0.5 dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100 nS	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70mA @ +8VDC	✓

NOTE: Any additional test data on back

TESTED ON: HP8720D

PROGRAM MANAGER/SUPERVISOR APPROVAL: [Signature] DATED: 11/30/00

QA/QC APPROVAL: [Signature] DATED: 11/20/00

VICE PRESIDENT/GENERAL MANAGER APPROVAL: [Signature] DATED: 11/30/00

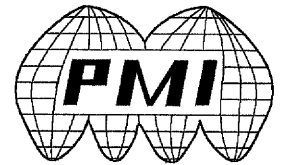
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MODEL NO: TD-30T-0518-MH HIGH SPEED THRESHOLD DETECTOR



JOB NO: 01047P

SUMMARY TEST DATA ON THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS TESTED BY: K. Mason
 JOB NO: 01047P TEMPERATURE: +25°C
 MODEL NO: TD-30T-0518-MH DATE: 11/30/00
 SERIAL NO: PM011642

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	pass	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	≤ 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	See table	✓
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL	± 1.0dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100 nS	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70mA @ +8VDC	✓

NOTE: Any additional test data on back

TESTED ON: HP8720D

PROGRAM MANAGER/SUPERVISOR APPROVAL: [Signature] DATED: 11/30/00

QA/QC APPROVAL: [Signature] DATED: 11/30/00

VICE PRESIDENT/GENERAL MANAGER APPROVAL: [Signature] DATED: 11/30/00

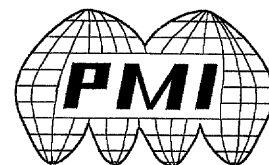
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MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR

JOB NO: 01047P

SUMMARY TEST DATA
ON
THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS TESTED BY: K. Mason
 JOB NO: 01047P TEMPERATURE: +25°C
 MODEL NO: TD-30T-0518-MH DATE: 11/30/00
 SERIAL NO: 27011643

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	pass	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	≤ 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	See table	✓
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL	±0.5 dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100 nS	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70mA @ +8VDC	✓

NOTE: Any additional test data on back

TESTED ON: HP8720DPROGRAM MANAGER/SUPERVISOR APPROVAL: [Signature] DATED: 11/30/00QA/QC APPROVAL: [Signature] DATED: 11/30/00VICE PRESIDENT/GENERAL MANAGER APPROVAL: [Signature] DATED: 11/30/00

PLANAR MONOLITHICS INDUSTRIES, INC.

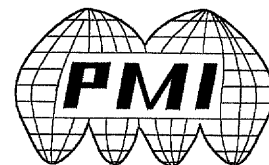
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MODEL NO: TD-30T-0518-MH

HIGH SPEED THRESHOLD DETECTOR

JOB NO: P108022

SUMMARY TEST DATA ON THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS
 JOB NO: P108022
 MODEL NO: TD-30T-0418-MH
 SERIAL NO: P 108377

TESTED BY: T. PHUNG
 TEMPERATURE: +25°C
 DATE: 9-07-01

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	0.5 GHz To 18 GHz	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	< 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	See Table	✓
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL.	± 2dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100 ns	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70 mA +8 V	✓

NOTE: Any additional test data on back

TESTED ON: HP 8720CPROGRAM MANAGER/SUPERVISOR APPROVAL: Ryszard Pawlley DATED: 9/8/01QA/QC APPROVAL: W. K. Smith DATED: 9/8/01

VICE PRESIDENT/GENERAL MANAGER APPROVAL: _____ DATED: _____

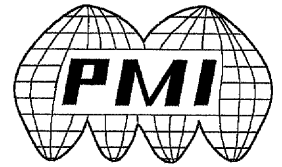
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WEBSITE: www.planarmonolithicsindustries.com, E-MAIL: sales@planarmonolithics.com

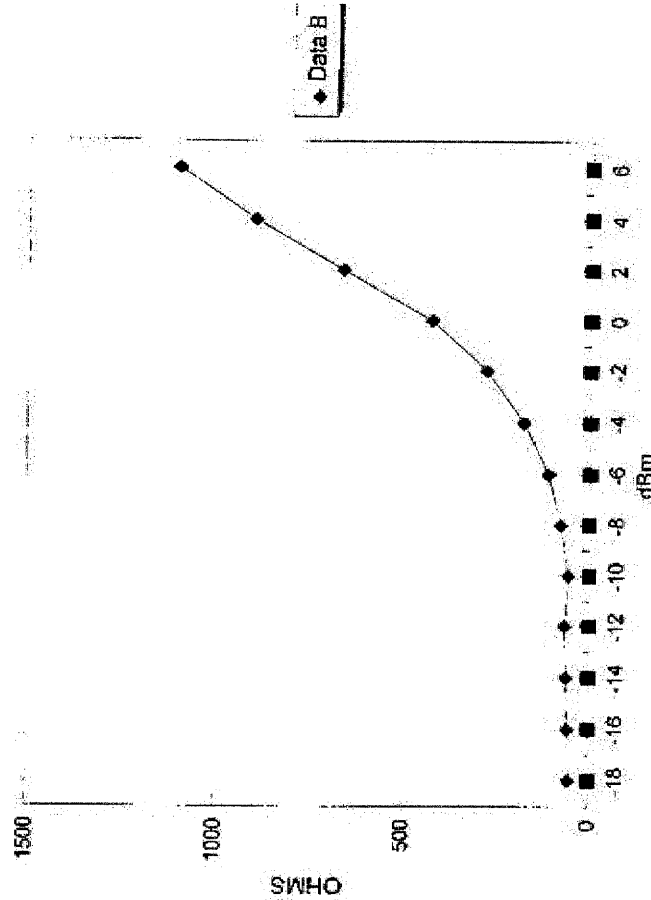
**MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR**



CUSTOMER: LITTON ADVANCED SYS.
JOB NUMBER: TD-30T-0418-MH
MODEL NUMBER: P 108377
SERIAL NUMBER:

RESISTOR VALUE OHMS	INPUT POWER dBm
52.3	-18
55.5	-16
60.5	-14
64.5	-12
55.5	-10
77.3	-8
110.9	-6
179.5	-4
280.1	-2
430	0
669	2
902	4
1105	6

RESISTOR VALUE VS THRESHOLD LEVEL



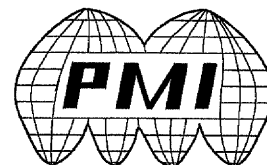
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WEBSITE: www.planarmonolithicsindustries.com, E-MAIL: sales@planarmonolithics.com

MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR



JOB NO: P108022

SUMMARY TEST DATA
ON
THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS
 JOB NO: P108022
 MODEL NO: TD-30T-0418-MH
 SERIAL NO: D 108379

TESTED BY: T. PHUNG
 TEMPERATURE: +25°C
 DATE: 9-07-01

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	0.5 GHz to 18 GHz	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	< 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	See Table	✓
4	INPUT FLATNESS:	± 2.0 dB MAXIMUM ± 1.0 dB TYPICAL	± 2dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL	< 100ns	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70mA / 8V+	✓

NOTE: Any additional test data on back

TESTED ON: HP 8720C

PROGRAM MANAGER/SUPERVISOR APPROVAL: Raymond Prutley DATED: 9/8/01

QA/QC APPROVAL: William J. Umhauer DATED: 9/8/01

VICE PRESIDENT/GENERAL MANAGER APPROVAL: _____ DATED: _____

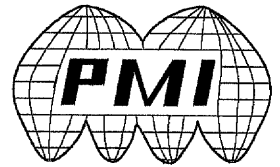
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**MODEL NO: TD-30T-0518-MH
HIGH SPEED THRESHOLD DETECTOR**



CUSTOMER: LITTON ADVANCED SYS.

JOB NUMBER:

TD-30T-0418-MH

MODEL NUMBER:

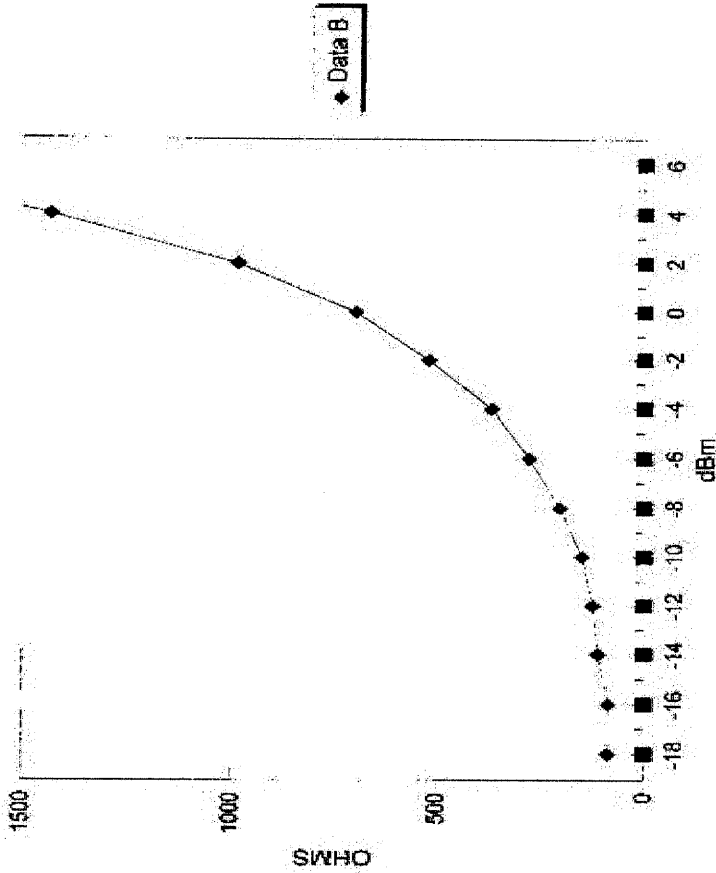
R108379

SERIAL NUMBER:

**RESISTOR VALUE
OHMS**

RESISTOR VALUE VS THRESHOLD LEVEL

RESISTOR VALUE OHMS	INPUT POWER dBm
86	-18
84.2	-16
108.4	-14
121.6	-12
146.9	-10
202	-8
277	-6
369	-4
521	-2
700	0
986	2
1433	4
1988	6



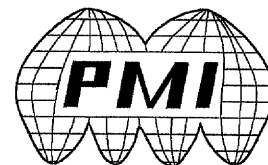
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MODEL NO: TD-30T-0518-MH HIGH SPEED THRESHOLD DETECTOR



SUMMARY TEST DATA ON THRESHOLD DETECTOR

CUSTOMER: LITTON ADVANCED SYSTEMS
JOB NO: P108022
MODEL NO: TD-30T-0418-MH
SERIAL NO: P108378

TESTED BY: T. PHUNG
TEMPERATURE: +25°C
DATE: 9-07-01

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	REMARKS QA/QC
1	FREQUENCY RANGE:	0.5 GHz TO 18 GHz	0.5 GHz To 18 GHz	✓
2	VSWR: @ -10dBm	2.5:1 MAXIMUM 2.0:1 TYPICAL	< 2.0:1	✓
3	USABLE INPUT POWER RANGE: (THRESHOLD LEVEL/RES)	-18 dBm TO +5 dBm SEE TABULATED DATA (EVERY 2 dB)	See Table	✓
4	INPUT FLATNESS:	±2.0 dB MAXIMUM ±1.0 dB TYPICAL.	± 2 dB	✓
5	RESPONSE TIME	100 nsec MAX 50 nsec TYPICAL.	< 100 ns	✓
6	POWER SUPPLY: (NO VIDEO LOAD)	+8 V @ 100mA MAX	70 mA +8V	✓

NOTE: Any additional test data on back

TESTED ON: HP-8720C

PROGRAM MANAGER/SUPERVISOR APPROVAL: Royce Padley DATED: 9/8/01

QA/QC APPROVAL: J. Umitha DATED: 9/8/01

VICE PRESIDENT/GENERAL MANAGER APPROVAL: _____ DATED: _____

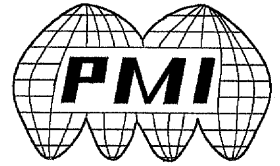
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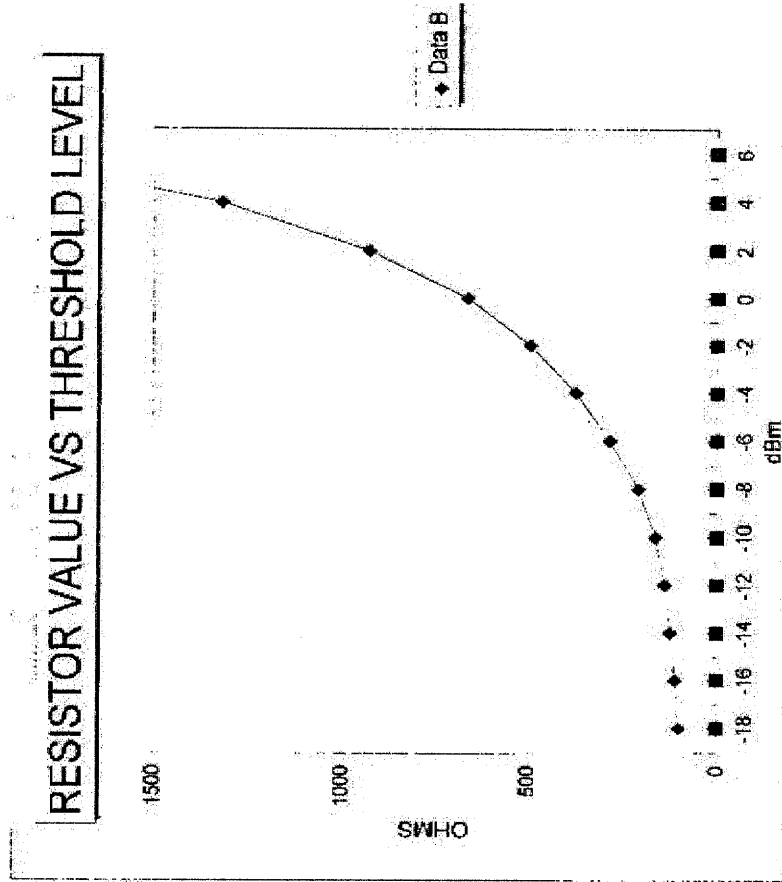
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MODEL NO: TD-30T-0518-MH HIGH SPEED THRESHOLD DETECTOR



CUSTOMER: LITTON ADVANCED SYS.
 JOB NUMBER:
 MODEL NUMBER: TD-30T-0418-MH
 SERIAL NUMBER: P 10 8 378



RESISTOR VALUE OHMS	INPUT POWER dBm
99.8	-18
109	-16
122.5	-14
136.9	-12
161.3	-10
206.8	-8
282.4	-6
373	-4
496	-2
664	0
928	2
1319	4
1989	6

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