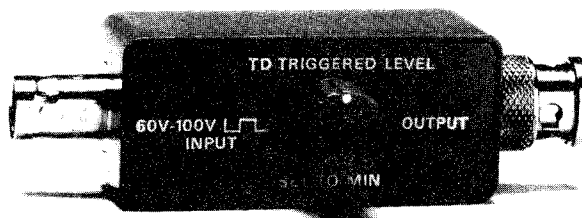


067-0681-01 CALIBRATION FIXTURE
Tunnel Diode Pulser



The 067-0681-01 Tunnel Diode Pulser provides a clean, fast-rise pulse for adjusting the transient response of high frequency oscilloscopes such as the Tektronix Types 475, 485, 7A11, 7A24, 7A19/7904, and 7A29/7104.

The 067-0681-01 may be driven by a 60-100 Volt square-wave such as the 1 kHz Amplitude Calibrator signal available from Tektronix 540 Series Oscilloscopes. A Tektronix Type 106 Square-Wave Generator or Type PG506* Calibration Generator may be used at repetition rates exceeding 50 Hz.

The 067-0681-01 completely replaces the 067-0681-00.

*The PG506 does not have sufficient amplitude to guarantee operation below 125 Hz.

NO. 062-1571-02
DATE JUNE 1981 (R)

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SPECIFICATIONS

ELECTRICAL

Input Signal Required

Amplitude: 60 - 100 Volt square-wave of either polarity capable of supplying at least 11mA.
 Minimum Frequency: 50 Hz for negative input signals
 0.2 Hz for positive input signals
 Maximum Frequency: Approximately 100 KHz

Output Signal

Amplitude: \approx 250 mV into 50 ohms
 Risetime: \leq 125ps
 Abberations: \leq 1% in a 1GHz (350 ps) system when terminated in 50 ohms
 \leq 4% including $<$ 8% peak to peak ring at (typically) 5 GHz in an 11.5 GHz (30 ps) system when terminated in 50 ohms.
 See graph for typical low frequency deviation from an ideal step.
 Output Impedance: 50 ohms \pm 6% at DC when tunnel diode is in high state.

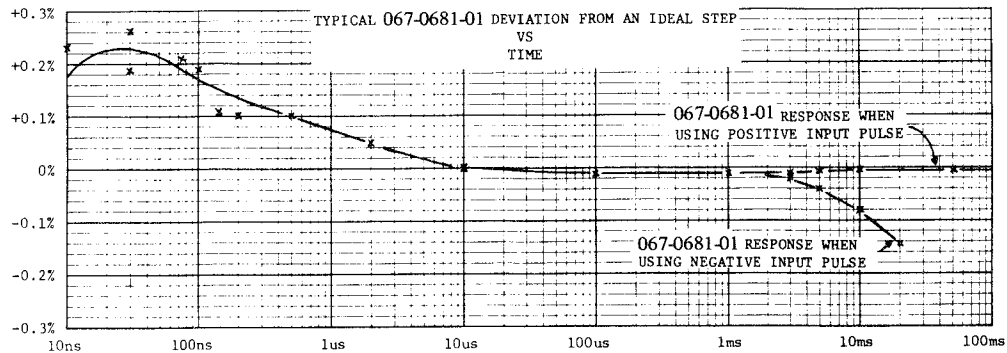
OPERATING INSTRUCTIONS

GENERAL INFORMATION

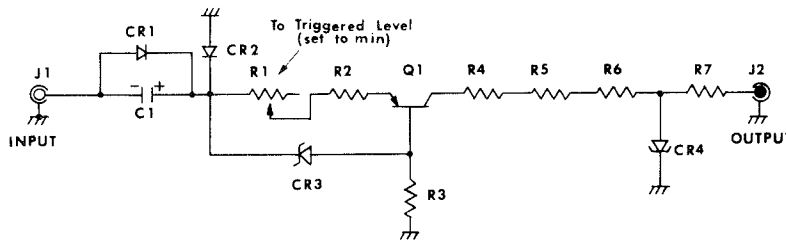
The 067-0681-01 Tunnel Diode Pulser provides a fast-rise pulse for checking and adjusting the transient response of oscilloscopes and amplifiers of up to 1.0 GHz bandwidth.

Always set the TD TRIGGERED LEVEL control to the minimum which will provide a fast-rise output (the 250 mV output which suddenly appears upon increase of the TD TRIGGERED LEVEL control from minimum). Setting the TD TRIGGERED LEVEL control above the minimum necessary will cause the step to deviate from the ideal by as much as 5%.

Terminate the 067-0681-01 with a 50 ohm termination resistor (such as the Tektronix 011-0049-01 termination) when testing oscilloscopes with a 1 Megohm input impedance. When testing an oscilloscope with a 50 ohm input impedance, connect the 067-0681-01 directly to the oscilloscope input or through an attenuating pad such as the Tektronix 011-0069-02 (x2 with BNC connectors). Such an attenuator will improve the reverse termination of the pulser and thus improve system transient response. In general, such an attenuator is necessary to assure clean response in systems exceeding 200 MHz bandwidth. Additional attenuators may be used to further reduce the signal amplitude without seriously degrading the pulser's performance.



152-0177-03



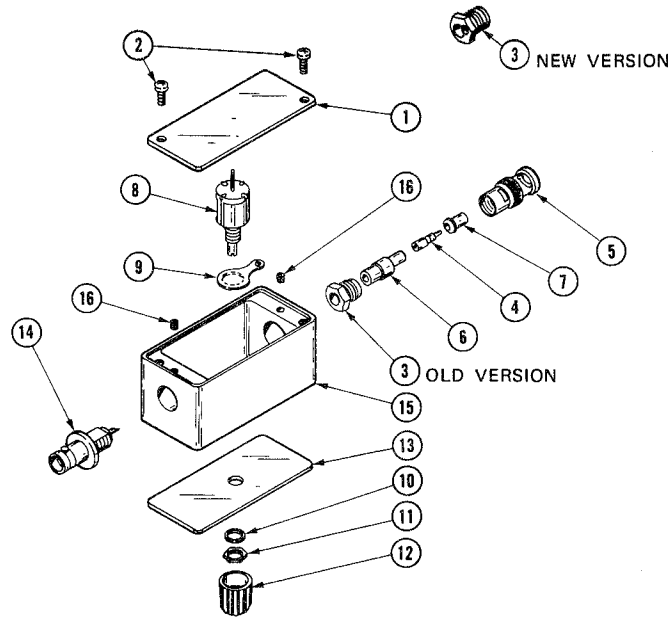
Dot forward's
Q1
Adjust length to
allow adjustments

REPLACEABLE ELECTRICAL PARTS

Ckt No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
C1	290-0271-00			CAP., FXD, ELCTLT:9UF,+20-15%,125V	56289	109D905C2125F2
CR1	152-0061-00			SEMICONV DEVICE DI:SILICON,175V,100MA	07263	FDH2161
CR2	152-0061-00			SEMICONV DEVICE DI:SILICON,175V,100MA	07263	FDH2161
CR3	152-0227-00			SEMICONV DEVICE DI:ZENER,0.4W,6.2V,5%	04713	SZ13903
CR4	152-0177-02			SEMICONV DEVICE DI:TUNNEL,10MA,+/-0.5MA,2PF	80009	152-0177-02
R1	311-1808-00			RES., VAR, NONWW:200 OHM,20%,0.5W	12697	382-CM40950
R2	317-0391-00			RES., FXD, CMPSN:390 OHM,5%,0.125W	01121	BB3915
R3	317-0823-00			RES., FXD, CMPSN:82K OHM,5%,0.125W	01121	BB8235
R4	317-0102-00			RES., FXD, CMPSN:1K OHM,5%,0.125W	01121	BB1025
R5	317-0102-00			RES., FXD, CMPSN:1K OHM,5%,0.125W	01121	BB1025
R6	317-0102-00			RES., FXD, CMPSN:1K OHM,5%,0.125W	01121	BB1025
R7	315-0430-02			RES., FXD, CMPSN:43 OHM,5%,0.25W	01121	CB4305
Q1	151-0410-00			TRANSISTOR:SILICON,PNP	80009	151-0410-00

CROSS INDEX—MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip
000BK	STAUFFER SUPPLY	105 SE TAYLOR	PORTLAND, OR 97214
00779	AMP, INC.	P O BOX 3608	HARRISBURG, PA 17105
01121	ALLEN-BRADLEY COMPANY	1201 2ND STREET SOUTH	MILWAUKEE, WI 53204
04713	MOTOROLA, INC., SEMICONDUCTOR PROD. DIV.	5005 E MCDOWELL RD, PO BOX 20923	PHOENIX, AZ 85036
07263	FAIRCHILD SEMICONDUCTOR, A DIV. OF FAIRCHILD CAMERA AND INSTRUMENT CORP.	464 ELLIS STREET	MOUNTAIN VIEW, CA 94042
12697	CLAROSTAT MFG. CO., INC.	LOWER WASHINGTON STREET	DOVER, NH 03820
24931	SPECIALITY CONNECTOR CO., INC.	2620 ENDRESS PLACE	GREENWOOD, IN 46142
56289	SPRAGUE ELECTRIC CO.		NORTH ADAMS, MA 01247
73743	FISCHER SPECIAL MFG. CO.	446 MORGAN ST.	CINCINNATI, OH 45206
74445	HOLO-KROME CO.	31 BROOK ST. WEST	HARTFORD, CT 06110
79807	WROUGHT WASHER MFG. CO.	2100 S. O BAY ST.	MILWAUKEE, WI 53207
80009	TEKTRONIX, INC.	P O BOX 500	BEAVERTON, OR 97077
86928	SEASTROM MFG. COMPANY, INC.	701 SONORA AVENUE	GLENDAL, CA 91201
93907	CAMCAR SCREW AND MFG. CO.	600 18TH AVE.	ROCKFORD, IL 61101
95712	BENDIX CORP., THE ELECTRICAL COMPONENTS DIV., MICROWAVE DEVICES PLANT	HURRICANE ROAD	FRANKLIN, IN 46131



REPLACEABLE MECHANICAL PARTS

Fig. & Index No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Qty	1	2	3	4	5	Name & Description	Mfr Code	Mfr Part Number
-1	067-0681-01 334-2115-01			1						FLXTURE, CAL:TUNNEL, DIODE PULSER	80009	067-0681-01
				1						. PLATE, IDENT: (ATTACHING PARTS)	80009	334-2115-01
-2	213-0141-00			2						. SCR, TPG, TF FOR: 4-40 X 0.25 INCH, PNH - - - - * - - - -	93907	OBD
-3	132-0081-00 132-0081-01 136-0252-00 -----			1						. BUSHING, MACH THD:(OLD VERSION)	95712	834-2
				1						. BUSHING, MACH THD:(NEW VERSION)	80009	132-0081-01
				1						. SOCKET, PIN TERM: V/W 0.019 DIA PINS (NEW VERSION)	00779	2-330808-7
-4	214-0109-02			1						. CONTACT, ELEC: BRASS, 0.125 OD, ALBALOY, ASTM	80009	214-0109-02
-5	134-0044-00			1						. SHELL, ELEC CONN: BNC	95712	33600-1
-6	166-0217-00			1						. INSULATOR, BSHG.:	80009	166-0217-00
-7	358-0072-00			1						. INSULATOR, BSHG:	80009	358-0072-00
-8	-----			1						. RESISTOR, VARIABLE:(SEE R1 EPL) (ATTACHING PARTS)		
-9	210-0223-00			1						. TERMINAL, LUG: 0.25 INCH ID	86928	A313-136
-10	210-0940-00			1						. WASHER, FLAT: 0.25 ID X 0.375 INCH OD, STL	79807	OBD
-11	210-0583-00			1						. NUT, PLAIN, HEX.: 0.25-32 X 0.312 INCH, BRS - - - - * - - - -	73743	2X20317-402
-12	366-0203-00 213-0075-00			1						. KNOB: GRAY	80009	366-0203-00
				1						. SETSCREW: 4-40 X 0.094 INCH, HEX SCH STL	000BK	OBD
-13	386-1342-01			1						. PLATE, RES. MTG: VAR RESISTOR, ALUMINUM	80009	386-1342-01
-14	131-0106-02			1						. CONNECTOR, RCPT, : BNC	24931	28JR178-1
-15	202-0054-00			1						. HOUSING, TERM: 1.0 SQ X 2.187, ZAMAK PTD	80009	202-0054-00
-16	213-0048-00			2						. SETSCREW: 4-40 X 0.125 INCH, HEX SCH STL	74445	OBD

STANDARD ACCESSORIES

062-1571-02	1	DATA SHEET: 067-0681-01	80009	062-1571-02
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