PLEASE NOTE AND RETURN:
BURNS, J. G. 3
DIVINS, G. C. 1
JACKSON, G. C. 4
KLAISS, M. J. 6
PERRIN, A. B. 7

DIODES

400-TYPE

CURRENT FLOW REQUIREMENTS

USING KS-12054 TEST SET

1. GENERAL

1.01 This section is reissued to include the 400J diode and to revise Tables A and B. The word varistors is changed to diodes in the title and throughout the section.

1.02 The KS-12054 test set provides means for testing the forward and reverse voltage-current characteristics of the diodes at voltages which are consistent with design requirements and manufacturing limits.

1.03 The requirements covered in this section apply only to diodes not wired in a circuit. For additional information and precautions concerning diodes, refer to Section 032-173-301.

2. APPARATUS

2.01 KS-12054 test set, including a pair of KS-9291 test clip leads and a pair of KS-9290 test pick leads.

3. PREPARATION

3.01 ***Voltage Test of Test Set Internal Batteries:*** In order to assure that the test set batteries are of proper voltage before testing a diode, the following voltage tests shall be made.

3.02 ***45-Volt Battery Test:*** Set the rotary switch of the test set to the 45-volt position. This will provide a measurement of the voltage of the two 22.5-volt internal batteries which are connected in series. If the batteries are normal, the meter pointer will be within the green area of the meter scale. If it is not, replace the batteries.

3.03 ***4.5-Volt Battery Test:*** Set the rotary switch of the test set to the 4.5-volt position. This will provide a measurement of the voltage of the three 1.5-volt internal batteries which are connected in series. If the batteries are normal, the meter pointer will be within the green area of the meter scale. If it is not, replace the batteries.

3.04 ***Connection of Diode to Test Set:*** After satisfactorily testing the internal batteries of the test set, turn the rotary switch to the OFF position. Connect the terminals of the test leads to the two pin jacks of the test set designated 1 and 2. With the test lead in the 1 pin jack attached to the end of the diode marked 1 and the test lead in the 2 pin jack attached to the end of the diode marked 2, set the toggle switch to the +ON2 position. This will provide the proper polarity of connection to the diode; the correctness can be verified by turning the rotary switch to the CAL position. If the meter does not show a deflection, the polarity of the diode is reversed. Operate the toggle switch to its other position to correct the condition.

4. REQUIREMENTS

4.01 The diodes shall meet the electrical requirements specified in Tables A and B. Any requirements for 400-type diodes, which are speci-

TABLE A

FORWARD CURRENT — MILLIAMPERES

DIODE	70F	80F
400A	4.8	5.0
400B	2.9	3.0
400C	2.9	3.0
400D	2.9	3.0
400E	2.9	3.0
400F	2.9	3.0
400G	2.9	3.0
400H	4.8	5.0
400J	4.8	5.0

TABLE B

MAXIMUM REVERSE CURRENT — MILLIAMPERES

DIODE	4.5 VOLTS		50 VOLTS	
	70F	80F	70F	80F
400A	0.018	0.022	0.85	0.94
400B	–	–	0.99	1.10
400C	–	–	0.40	0.45
400D	–	–	1.48	1.65
400E	–	–	0.49	0.55
400F	0.018	0.022	0.85	0.94
400G	–	–	0.99	1.10
400H	0.018	0.022	0.85	0.94
400J	–	–	0.40	0.45

fied on circuit drawings, supersede the requirements covered herein.

5. TESTING PROCEDURES

5.01 ***Checking Forward Current:*** With the diode connected to the test set as covered in 3.04, the proper polarity of connections made to the diode, and the rotary switch in CAL position, adjust the CAL rheostat so that the meter reading on the 10-milliampere scale is the value specified in Table A for the temperature nearest the room temperature at the time the measurement is made. The forward voltage required to produce the forward current of the CAL position is measured by rotating the rotary switch to F2V position. A reading of 1 volt or less on the 2-volt full scale indicates that the diode is within its requirements.

5.02 ***Checking Reverse Current:*** With the diode connected to the test set as covered in 3.04, the rotary switch set to CAL position, and the CAL rheostat adjusted to give the reading specified in Table A, turn the rotary switch to either the 1-ma or 0.1-ma position to read up to but not beyond the maximum reverse current at 4.5 volts specified in Table B. Turn the rotary switch to either the 10-ma, 2-ma, or 0.5-ma position to read up to but not beyond the maximum reverse current at 50 volts as covered in Table B. The reading should be steady and should be observed for a period of 15 to 30 seconds to assure that the current reading does not drift to a value beyond that stated in the requirements.