BKC INTERNATIONAL ELECTRONICS, INC.
6 LAKE STREET, LAWRENCE, MA 01841
TEL NO. (508) 681-0392

ENGINEERING DATA SHEET

TYPE

1N5194

METALLURGIALLY BONDED, SILICON PLANAR DIODE, DOUBLE PLUG CONSTRUCTION

ABSOLUTE MAXIMUM RATINGS

PEAK REVERSE VOLTAGE (VRM)	80V
WORKING PEAK REVERSE VOLTAGE (VRMwkg)	70V
AVERAGE RECTIFIED FORWARD CURRENT	200mA @ +25 DEGREES CELSIUS 50mA @ +150 DEGREES CELSIUS
PEAK SURGE CURRENT, 1/2 CYCLE, 60 Hz	2A
POWER DISSIPATION	250mW
OPERATING TEMPERATURE	-55 TO +175 DEGREES CELSIUS
STORAGE TEMPERATURE	-55 TO +200 DEGREES CELSIUS

CHARACTERISTICS

PARA	VF	IR	IR	PIV
COND	100mA	70V	70V	100uA
TA	25C	25C	150C	25C
LIMITS				
MIN	---	---	---	80V
MAX	1V	25nA	5uA	---

PACKAGE CONFIGURATION

GLASS CASE JEDEC DO-35
(INCHES)

LEAD LENGTH	1.125 MAX
LEAD DIAMETER	.020 +-.002
BODY LENGTH	.150 MAX.
BODY DIAMETER	.075 MAX.

MARKING

BLACK CATHODE BAND & BLACK DIGITAL PRINT

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6 LAKE STREET LAWRENCE , MA. 01841

DATA SHEET

for

SILICON RECTIFIER DIODE

1N5186

ABSOLUTE MAXIMUM RATING:

PARAMETER	SYMBOL	VALUE	UNITS	COND
REVERSE WORKING VOLTAGE	WIV	100V	VOLTS	
AVERAGE RECTIFIED FORWARD CURRENT	Io	3.0	AMPS	0 TO 25C
	Io	1.5	AMPS	100C
SURGE CURRENT (8.3mS @ 25C)	IFSM	80	AMPS	1 SURGE
POWER DISSIPATION	Po	3.0	WATTS	
OPERATING TEMPERATURE	Tj	-65 TO +175	C	
STORAGE TEMPERATURE	TA	+200	C	

SPECIFICATION @ 25C UNLESS NOTED OTHERWISE:

PARAMETERS	SYMBOLS	Min	Max	COND
FORWARD VOLTAGE	VF	---	1.1V	3.0A
REVERSE CURRENT	IR	---	5.0uA	100V
REVERSE CURRENT	IR		100uA	100V @ 100C
BREAKDOWN VOLTAGE	BV	120V	---	100uA
CAPACITANCE	Cap	---	400Pf	12V, f=1.0MHz
REVERSE RECOVERY TIME	Trr	---	250nS @ 0.5A	IF=IR=1.0A

MECHANICAL DIMENSIONS

LEAD DIAMETER	.040 +-.0005 INCHES
LEAD LENGTH	1.15 INCHES TYPICAL
BODY DIAMETER	.132 +-.0015 INCHE
BODY LENGTH	.170 +-.002 INCHES

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Construction

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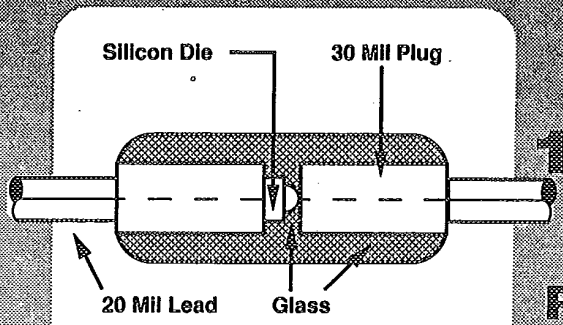
1N3595
1N3595-1



FEATURES

- Voidless construction
- Thermally-matched
- Metallurgically bonded
- No PIND test required
- DO-35 package
- The ultimate in reliability

RELIABILITY DATA

- Capable of passing thermal shock -196° C to +150° C (liquid to liquid)
- Capable of passing 2000 cycles of temperature cycling -65° C to +175° C
- Solder plate surpasses requirements of MIL-STD 202, Method 208 8 hour Steam Age Test.

SPECIAL FEATURES

- Available to Source Control Drawings
- Processing available to JAN, JANTX, JANTXV and JAN S Quality Levels

MAXIMUM RATINGS

Peak Inverse Voltage:	125 V	Peak Surge Current (pulse width 1 µS):	4 A
Working Inverse Voltage:	125 V	Maximum Power Dissipation:	500 mW
Average Rectified Current:	150 mA	Operating Temperature:	–65° C to +175° C
Continuous Forward Current:	150 mA	Storage Temperature:	–65° C to +200° C

TYPICAL ELECTRICAL CHARACTERISTICS (Temperature @ 25° C unless otherwise specified)

	VF1 1 mA Vdc	VF2 5 mA Vdc	VF3 10 mA Vdc	VF4 50 mA Vdc	VF5 100 mA Vdc	VF6 200 mA Vdc	IR1 125 V nA	IR2 @ 150° C 125 V µA	Trr * µS	Cap 0 V Pf
1N3595 & 1N3595-1	.52-.68	.60-.75	.65-.80	.74-.88	.79-.92	.83-1.0	1.0	3.0	3.0	8.0

* Per Method 4031-B of MIL-STD-750 with IF = 10 mA, VR = 35 V, RL =1.0 Ohms, C = 10 Pf

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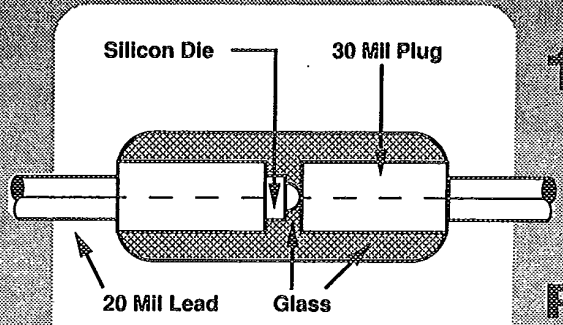

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MAXIMUM RATINGS

Peak Inverse Voltage:	100 V	Peak Surge Current (pulse width 1/120 Sec):	500 mA
Working Inverse Voltage:	75 V	Maximum Power Dissipation:	500 mW
Average Rectified Current:	200 mA	Operating Temperature:	–65° C to +175° C
Continuous Forward Current:	300 mA	Storage Temperature:	–65° C to +200° C

TYPICAL ELECTRICAL CHARACTERISTICS (Temperature @ 25° C unless otherwise specified)

VF1 10 mA Vdc	VF2 100 mA Vdc	VF3 @ 150° C 10 mA Vdc	IR1 20 V nA	IR2 75 V nA	IR3 100 V µA	IR4 @ 150° C 20 V µA	IR5 @ 150° C 75 V µA	Cap 0 V Pf	Cap 1.5 V Pf	Trr * nS	Tfr ** nS
1.0	1.2	0.80	25	500	100	50	100	4.0	2.8	5.0	20

* Per Method 4031-B of MIL-STD-750 with IF = IR = 10 mA, RL =100 Ohms, C = 3 Pf

** Per Method 4026 of MIL-STD-750 with IF = 50 mA

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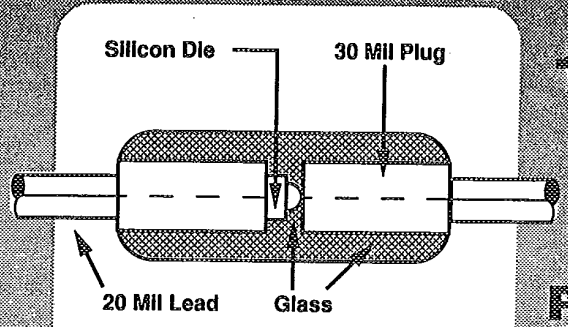

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MAXIMUM RATINGS

Peak Inverse Voltage:	75 V	Peak Surge Current (pulse width 1 Sec):	.5 A
Working Inverse Voltage:	50 V	Maximum Power Dissipation:	500 mW
Average Rectified Current:	200 mA	Operating Temperature:	–65° C to +175° C
Continuous Forward Current:	400 mA	Storage Temperature:	–65° C to +200° C

TYPICAL ELECTRICAL CHARACTERISTICS (Temperature @ 25° C unless otherwise specified)

VF1 1 mA Vdc	VF2 10 mA Vdc	VF3 50 mA Vdc	VF4 100 mA Vdc	VF5 200 mA Vdc	IR1 50 V nA	IR2 @ 150° C 50 V µA	Cap 0 V Pf	Trr * nS	Trr ** nS	Tfr *** nS
.54-.62	.66-.74	.76-.86	.82-.92	.87-1.0	100	100	2.5	4.0	6.0	10

* Per Method 4031-B of MIL-STD-750 with IF = IR = 10 to 200 mA, RL =100 Ohms.
** Per Method 4031-B of MIL-STD-750 with IF = IR = 200 to 400 mA, RL =100 Ohms.
*** Per Method 4026 of MIL-STD-750 with IF = 200 mA, Tr = 0.4 nS.

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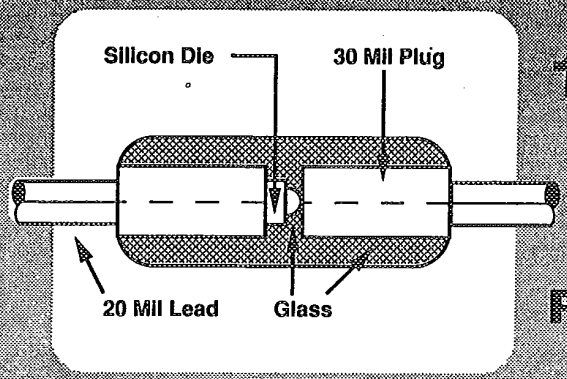

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MAXIMUM RATINGS

Peak Inverse Voltage:	75 V	Peak Surge Current (pulse width 1 Sec):	.25 A
Working Inverse Voltage:	50 V	Maximum Power Dissipation:	500 mW
Average Rectified Current:	150 mA	Operating Temperature:	–65° C to +200° C
Continuous Forward Current:	300 mA	Storage Temperature:	–65° C to +200° C

TYPICAL ELECTRICAL CHARACTERISTICS (Temperature @ 25° C unless otherwise specified)

VF1 100 µA Vdc	VF2 250 µA Vdc	VF3 1 mA Vdc	VF4 2 mA Vdc	VF5 10 mA Vdc	VF6 20 mA Vdc	IR1 50 V nA	IR2 @ 150° C 50 V µA	PIV 5 µA Vdc	PIV @ -65° C 5 µA Vdc	Trr * nS	Cap 0 V Pf
.49-.55	.53-.59	.59-.67	.62-.70	.70-.81	.74-.88	50	50	75 min.	75 min.	4.0	2.0

* Per Method 4031-B of MIL-STD-750 with IF = IR = 10 mA, RL =100 Ohms, C = 3 Pf

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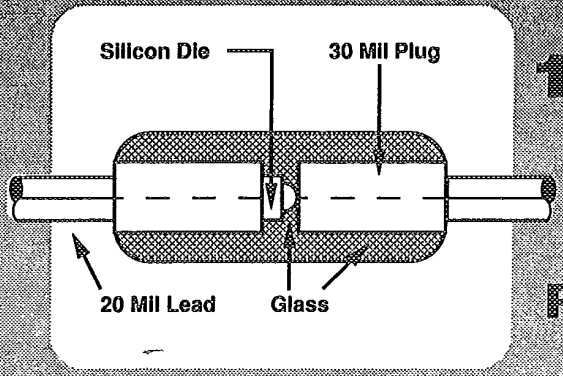

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Continuous Forward Current:	300 mA	Storage Temperature:	–65° C to +200° C

TYPICAL ELECTRICAL CHARACTERISTICS (Temperature @ 25° C unless otherwise specified)

VF1 10 mA Vdc	VF2 @ 150° C 10 mA Vdc	IR1 50 Vdc nA	IR2 @ 150° C 50 Vdc µA	PIV1 5 µA Vdc	PIV2 @ -55° C 0.1 µA Vdc	Cap 0 V Pf	Trr * nS	Tfr ** nS
1.0	0.70	100	100	75 min.	75 min.	2.0	4.0	30

* Per Method 4031-B of MIL-STD-750 with IF = IR = 10 mA, RL =100 Ohms, C = 3 Pf.

** Per Method 4026 of MIL-STD-750 with IF = 100 mA, Tr < 0.4 nS.

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