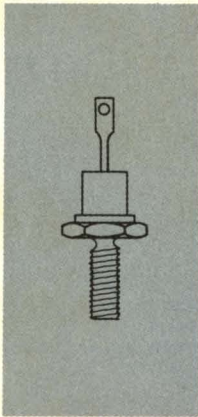
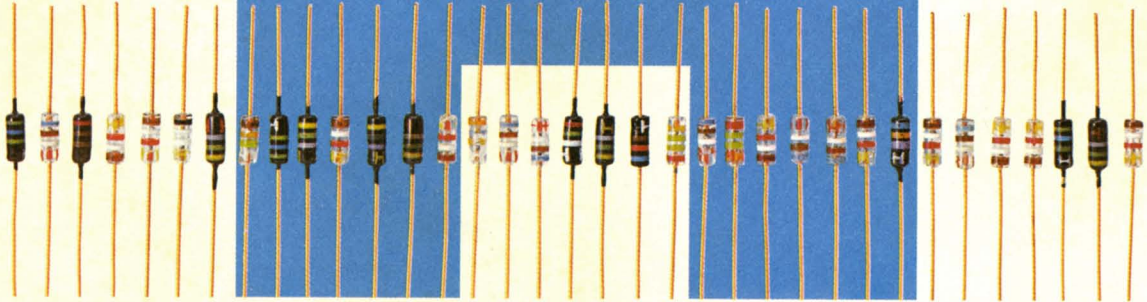
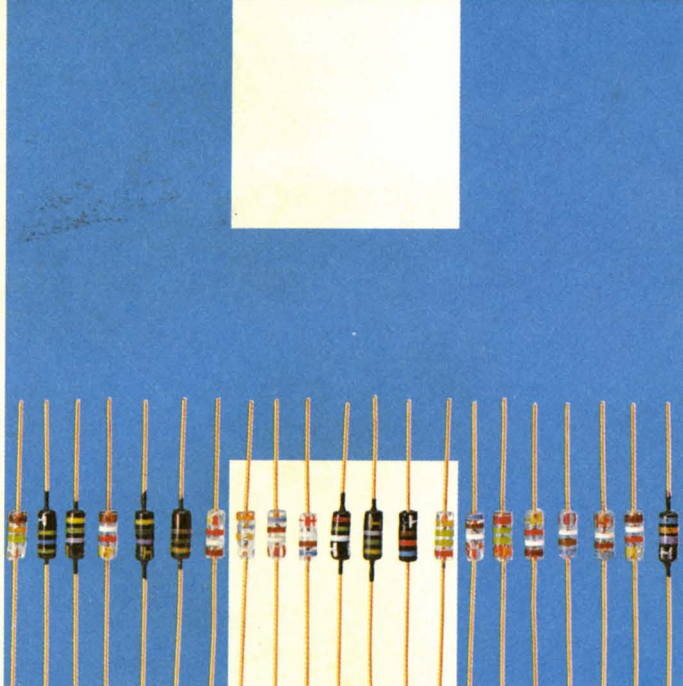
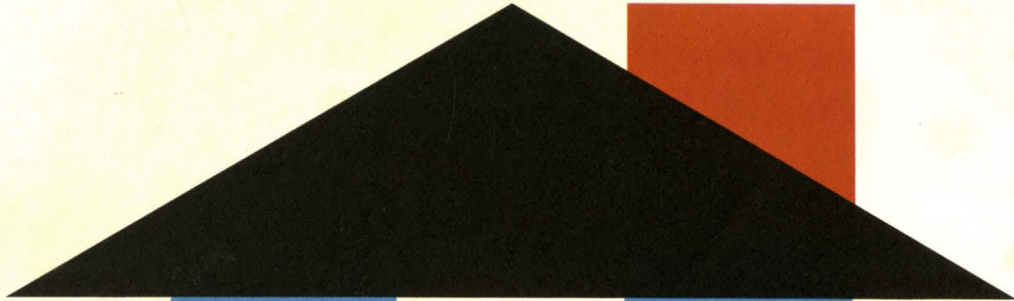
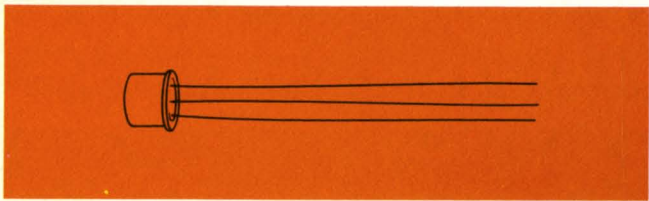


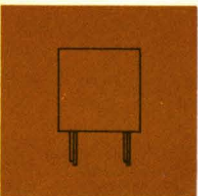
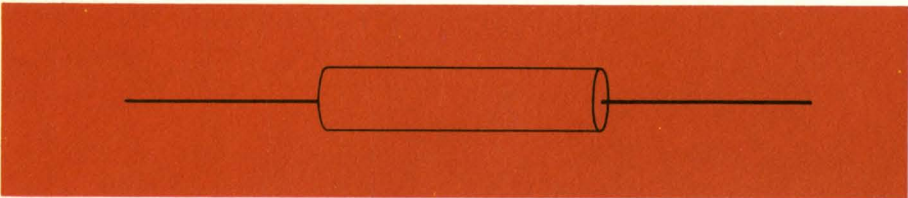
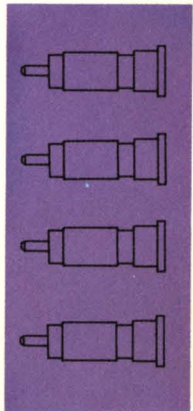
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### SILICON GENERAL PURPOSE DIODES Package A

Type	Minimum Breakdown Voltage @ 100 $\mu$ A @ 25°C	Minimum Forward Current in mA at +1 V	Maximum Inverse Current @ Specified D.C. Test Voltage			Maximum Average Forward Current (mA) @ 25°C	Maximum Peak Recurrent Forward Current (mA)	Maximum Forward Surge Current 1 Sec. (mA)	Maximum D.C. Inverse Voltage (Volts)
			@ 25°C	@ 150°C	Volts				
1N456	30	40	.025 $\mu$ A	.005 mA	25	90	270	700	25
†1N457	70	20	.025 $\mu$ A	.005 mA	60	75	225	600	60
†1N458	150	7	.025 $\mu$ A	.005 mA	125	55	165	500	125
†1N459	200	3	.025 $\mu$ A	.005 mA	175	40	120	400	175
1N461	30	15	.5 $\mu$ A	.030 mA	25	60	180	550	25
1N462	70	5	.5 $\mu$ A	.030 mA	60	50	150	500	60
1N463	200	1	.5 $\mu$ A	.030 mA	175	30	100	400	175
1N464	150	3	.5 $\mu$ A	.030 mA	125	40	120	400	125

†JAN Approved

### SILICON COMPUTER DIODES Package A

Type	Minimum Es (@ 100 $\mu$ A)	Minimum Forward Current @ 25°C at specified voltage	Maximum Reverse Current ( $\mu$ A)		Reverse Recovery	
			@ 25°C	@ 100°C	Reverse Resistance (R) (ohms)	Maximum Recovery Time ( $\mu$ sec)
1N625	30	4 @ 1.5	1.0 @ -20V	30 @ -20V	400 K	1.0**
1N626	50	4 @ 1.5	1.0 @ -35V	30 @ -35V	400 K	1.0**
1N627	100	4 @ 1.5	1.0 @ -75V	30 @ -75V	400 K	1.0**
1N628	150	4 @ 1.5	1.0 @ -125V	30 @ -125V	400 K	1.0**
1N629	200	4 @ 1.5	1.0 @ -175V	30 @ -175V	400 K	1.0**
1N643	200	10 @ 1.0	.025 @ -10V 1.0 @ -100V	5 @ -10V 15 @ -100V	200 K	0.3†
1N643A	200	100 @ 1.0	.025 @ -10V 1.0 @ -100V	5 @ -10V 15 @ -100V	200 K	0.3†
1N658	120	100 @ 1.0	.05 @ -50V	25 @ -50V (At 150°C)	80 K	0.3†
1N659	60	6 @ 1.0	5.0 @ -50V	25 @ -50V	400 K	0.3*
1N662	100	10 @ 1.0	1.0 @ -10V 20.0 @ -50V	20 @ -10V 100 @ -50V	100 K	0.5†
1N662A	100	100 @ 1.0	1.0 @ -10V 20.0 @ -50V	20 @ -10V 100 @ -50V	100 K	0.5†
1N663	100	100 @ 1.0	5.0 @ -75V	50 @ -75V	200 K	0.5†
1N837	100	150 @ 1.0	0.1 @ -75V	15 @ -75V	400 K	0.5*
1N838	150	150 @ 1.0	0.1 @ -125V	15 @ -125V	400 K	0.5*
1N839	200	150 @ 1.0	0.1 @ -175V	15 @ -175V	400 K	0.5*
1N844	100	200 @ 1.0	0.1 @ -80V	15 @ -80V	400 K	0.5*
1N845	200	200 @ 1.0	0.1 @ -160V	15 @ -160V	400 K	0.5*

\*\*Measured in modified IBM "Y" test circuit when switched from 30mA forward current to -35V.

†Measured in JAN 256 test circuit and switched from 5mA forward current to -40V.

\*Measured in JAN 256 test circuit and switched from 30mA forward current to -35V.

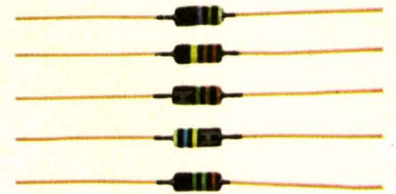
### HIGH CONDUCTANCE SILICON JUNCTION DIODES Package A

Type	Minimum Breakdown Voltage @ 100 $\mu$ A @ 25°C	Maximum Forward Voltage @ 100mA (Volts)	Maximum Inverse Current @ specified D.C. Test Voltage			Maximum Average Forward Current (mA) @ 25°C	Maximum Peak Recurrent Forward Current (mA)	Maximum Forward Surge Current 10 mSec (Amperes)	Maximum D.C. Inverse Voltage (Volts)
			@ 25°C	@ 150°C	Volts				
1N482	40	1.1	.25 $\mu$ A	.030 mA	-30	100	400	1.0	36
1N482A	40	1.0	.025 $\mu$ A	.015 mA	-30	200	650	2.0	36
1N482B	40	1.0	.025 $\mu$ A	.005 mA	-30	200	650	2.0	36
1N483	80	1.1	.25 $\mu$ A	.030 mA	-60	100	400	1.0	70
1N483A	80	1.0	.025 $\mu$ A	.015 mA	-60	200	650	2.0	70
1N483B	80	1.0	.025 $\mu$ A	.005 mA	-60	200	650	2.0	70
1N484	150	1.1	.25 $\mu$ A	.030 mA	-125	100	400	1.0	130
1N484A	150	1.0	.025 $\mu$ A	.015 mA	-125	200	650	2.0	130
1N484B	150	1.0	.025 $\mu$ A	.005 mA	-125	200	650	2.0	130
1N485	200	1.1	.25 $\mu$ A	.030 mA	-175	100	400	1.0	180
1N485A	200	1.0	.025 $\mu$ A	.015 mA	-175	200	650	2.0	180
1N485B	200	1.0	.025 $\mu$ A	.005 mA	-175	200	650	2.0	180
1N486	250	1.1	.25 $\mu$ A	.050 mA	-225	100	400	1.0	225
1N486A	250	1.0	.05 $\mu$ A	.025 mA	-225	200	650	2.0	225
1N487	330	1.1	.25 $\mu$ A	.050 mA	-300	100	400	1.0	300
1N487A	330	1.0	.1 $\mu$ A	.025 mA	-300	200	650	2.0	300
1N488	420	1.1	.25 $\mu$ A	.050 mA	-380	100	400	1.0	380
1N488A	420	1.0	.1 $\mu$ A	.025 mA	-380	200	650	2.0	380

Specifications current as of February 1, 1960

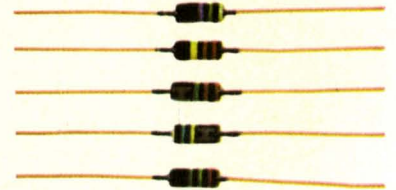
## SILICON GENERAL PURPOSE DIODES Package A

Type	Minimum Forward Current @ 25°C at Specified Voltage (mA)	Maximum Reverse Current @ Specified D.C. Test Voltage (μA)			Minimum Breakdown Voltage @ 25°C @ 100 μA
		@ 25°C	@ 150°C	Volts	
HD6001	15 @ 1.0V	.500	30	25	30
HD6002	5 @ 1.0V	.500	30	60	70
HD6003	1 @ 1.0V	.500	30	175	200
HD6005	40 @ 1.0V	.025	5	25	30
HD6006	20 @ 1.0V	.025	5	60	70
HD6007	7 @ 1.0V	.025	5	125	150
HD6008	3 @ 1.0V	.025	5	175	200
HD6009	3 @ 1.0V	.500	30	125	150



## SILICON HIGH VOLTAGE DIODES Package A

Type	PIV (V)	Minimum Forward Current @ 25°C at 1.0 Volts (mA)	Maximum Reverse Current @ PIV (μA)	Average Rectified Forward Current (mA)	Minimum Breakdown Voltage @ 25°C @ 100 μA
HD6861	225	200	.050	200	275
HD6862	300	200	.050	200	360
HD6863	400	200	.050	200	480
HD6864	500	200	.050	200	600
HD6865	600	200	.050	200	720
HD6866	700	200	.050	200	820
HD6867	800	200	.050	200	920
HD6868	900	200	.050	200	1020



## SILICON COMPUTER DIODES Package A

Type	Minimum Breakdown Voltage (V) @ 100 μA	Minimum Forward Current @ 25°C @ 1.5V (mA)	Maximum Reverse Current (μA)		Reverse Recovery	
			@ 25°C	@ 100°C	Reverse Resistance R (ohms)	Maximum Recovery Time (μ sec)
HD6635	50	15	1.0 @ -35V	30 @ -35V	400K	1.0**
HD6641	150	15	1.0 @ -125V	100 @ -125V	400K	1.0**
HD6642	50	6	1.0 @ -35V	100 @ -35V	400K	1.0**
HD6647	35	6	1.0 @ -20V	30 @ -20V	400K	1.0**
HD6648	100	6	1.0 @ -75V	30 @ -75V	400K	1.0**
HD6649	200	6	1.0 @ -175V	30 @ -175V	400K	1.0**
HD6651	100	15	1.0 @ -75V	30 @ -75V	400K	1.0**
HD6652	200	15	1.0 @ -175V	30 @ -175V	400K	1.0**

\*\*Measured in modified IBM "Y" test circuit when switched from 30mA forward current to -35V.

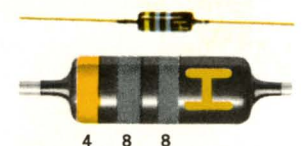
## HIGH CONDUCTANCE SILICON JUNCTION DIODES Package A

Type	Minimum Forward Current @ 25°C at 1.0 Volts (mA)	Maximum Inverse Current @ Specified D.C. Test Voltage (μA)			Minimum Breakdown Voltage @ 25°C @ 100 μA
		@ 25°C	@ 150°C	Volts	
HD6132	100	.025	5	30	40
HD6133	100	.025	5	60	80
HD6134	100	.025	5	125	150
HD6135	100	.025	5	175	200
HD6136	100	.050	25	225	250
HD6751	100	.1		150	200
HD6752	100	.1		200	250
HD6753	100	.1		250	300
HD6754	100	.1		300	350
HD6755	100	.1		350	400
HD6763	200	.25	30	60	80
HD6764	200	.025	5	60	80
HD6765	200	.25	30	125	150
HD6766	200	.025	5	125	150
HD6767	200	.25	30	175	200
HD6768	200	.025	5	175	200
HD6769	200	.25	50	225	250
HD6771	200	.05	25	225	250
HD6772	200	.25	50	300	350
HD6773	200	.1	25	300	350
HD6774	200	.25	50	380	420
HD6775	200	.1	25	380	420
HD6777	200	.25	30	30	40

## STANDARD EIA COLOR CODE

color number	0	1	2	3	4
	5	6	7	8	9

Typical E.I.A. color coding: Manufacturer is identified by gold letter "H" on anode end. Color code reads from cathode end.



**SILICON PNP HIGH SPEED SWITCHING TRANSISTORS Package D** (Operating Temperature Range: -65°C to +160°C)

D. C. Characteristics:

Type	Collector to Base Voltage† (BV <sub>CBO</sub> )	Emitter to Base Voltage† (BV <sub>EBO</sub> )	Collector to Emitter Voltage† (BV <sub>CEO</sub> )	Typ D.C. Current Gain (h <sub>FE</sub> ) I <sub>C</sub> = -10mA, V <sub>CE</sub> = -1V	Max. Collector Saturation Voltage (V <sub>CE</sub> )	
					I <sub>C</sub> = -10mA	I <sub>B</sub> = -2 mA
2N1254+	-15 V	-5 V	-15 V	20	-0.3 Vdc	
2N1255+	-15 V	-5 V	-15 V	50	-0.3 Vdc	
2N1256+	-30 V	-5 V	-30 V	20	-0.3 Vdc	
2N1257+	-30 V	-5 V	-30 V	50	-0.3 Vdc	
2N1258+	-50 V	-5 V	-50 V	20	-0.3 Vdc	
2N1259+	-50 V	-5 V	-50 V	50	-0.3 Vdc	

**SILICON PNP FUSED JUNCTION TRANSISTORS†† Package C, D** (Operating Temperature Range: -65°C to +160°C)

2N1228**	-15 V	-15 V	-15 V	14	-0.2 Vdc
2N1238*					
2N1229**	-15 V	-15 V	-15 V	30	-0.2 Vdc
2N1239**					
2N1230**	-35 V	-35 V	-35 V	14	-0.2 Vdc
2N1240**					
2N1231**	-35 V	-35 V	-35 V	30	-0.2 Vdc
2N1241**					
2N1232**	-60 V	-60 V	-60 V	14	-0.2 Vdc
2N1242**					
2N1233**	-60 V	-60 V	-60 V	30	-0.2 Vdc
2N1243**					
2N1234**	-110 V	-110 V	-110 V	14	-0.2 Vdc
2N1244**					

ΔV<sub>EB</sub> = -3V  
† at 100μA

Power dissipation: \* Coaxial package—1 watt (free air), derate 7.4 mw/°C; 5 watts, derate 37 mw/°C  
\*\* TO-5 package—400 mw (free air), derate 3.0 mw/°C (Infinite Heat Sink)

**SILICON PNP HIGH FREQUENCY TRANSISTOR Package D** (Operating Temperature Range: -65°C to +200°C)

Type	Collector to Base Voltage (V <sub>CBO</sub> ) I <sub>CBO</sub> = -100μA	Emitter to Base Voltage (V <sub>EBO</sub> ) I <sub>EBO</sub> = -100μA	Collector to Emitter Voltage (V <sub>CEO</sub> ) I <sub>CEO</sub> = -100μA	Power Gain (PG)				Maximum Collector Cutoff Current (I <sub>CBO</sub> ) V <sub>CB</sub> = -20V
				I <sub>E</sub> = 2mA, V <sub>CE</sub> = -10V f = 4.3 mc		I <sub>E</sub> = 2mA, V <sub>CE</sub> = -10V f = 12.5 mc		
				min.	typ.	min.	typ.	
2N1196	-70 V	-4 V	-70 V	24db	28db	20db	22db	0.25 μA
2N1197	-70 V	-4 V	-70 V					0.25 μA

**SILICON RECTIFIERS Package A**

Type	PIV	RMS Volts	Max. Average Rectified Current mA	Max. Surge Current One Cycle (amp)
1N846	50	35	200	2A
1N847	100	70	200	2A
1N848	200	140	200	2A
1N849	300	210	200	2A
1N850	400	280	200	2A
1N851	500	350	200	2A
1N852	600	420	200	2A
1N853	700	490	200	2A
1N854	800	560	200	2A
1N855	900	630	200	2A
1N856	1000	700	200	2A
1N857	50	35	150	1.5
1N858	100	70	150	1.5
1N859	200	140	150	1.5
1N860	300	210	150	1.5
1N861	400	280	150	1.5
1N862	500	350	150	1.5
1N863	600	420	150	1.5
1N864	700	490	150	1.5
1N865	800	560	150	1.5
1N866	900	630	150	1.5
1N867	1000	700	150	1.5

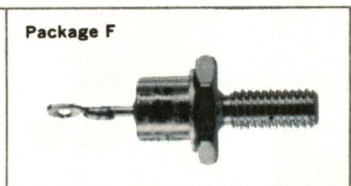
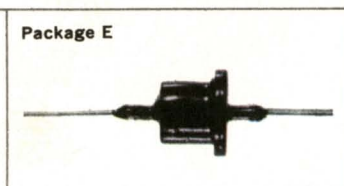
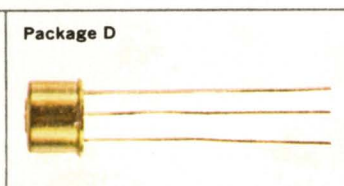
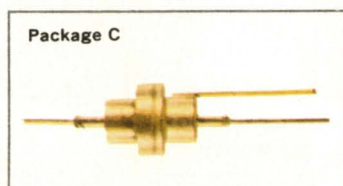
**RECTIFIER STUD PACKAGE Package F**

Type	PIV	Average Rectified Current	Max. Reverse Current**	Temperature*	Surge
1N253	95V	1000mA	0.1mA	135°C	
1N254	190V	400mA	0.1mA	135°C	
1N255	380V	400mA	0.15mA	135°C	
1N256	570V	200mA	0.25mA	135°C	
1N562	800V	400mA	1.5μA+	100°C	
1N563	1000V	400mA	2.0μA+	100°C	
HR10671	100V	3Amp	0.5mA	150°C	
HR10673	200V	3Amp	0.5mA	150°C	
HR10675	300V	3Amp	0.5mA	150°C	
HR10677	400V	3Amp	0.5mA	150°C	
HR10679	500V	2Amp	0.5mA	135°C	
HR10681	600V	2Amp	0.5mA	135°C	

**RECTIFIER TOP HAT PACKAGE Package E**

Type	PIV	Average Rectified Current	Max. Reverse Current**	Temperature*	Surge
1N536	50V	250mA	0.4mA	150°C	15Amp
1N537	100V	250mA	0.4mA	150°C	15Amp
1N538	200V	250mA	0.3mA	150°C	15Amp
1N539	300V	250mA	0.3mA	150°C	15Amp
1N540	400V	250mA	0.3mA	150°C	15Amp
1N547	600V	250mA	0.35mA	150°C	15Amp
1N560	800V	250mA	0.375mA+	100°C	2Amp
1N561	1000V	250mA	0.500mA+	100°C	2Amp

\*applies to all forward and reverse current measurements except those marked + which are measured at 25°C  
\*\*full cycle average in operational test.



Small Signal Characteristics:

Max. Collector & Emitter Cutoff Currents ( $I_{CBO}, I_{EBO}, \Delta$ )						AC Current Gain ( $h_{fe}$ ) $V_{CB} = -10V, I_E = 2mA, f = 1Kc.$			Frequency Cutoff ( $F_{\alpha b}$ ) $V_{CB} = -10V, I_E = 2mA$	
$V_{CB} = -12V$	$V_{CB} = -25V$	$V_{CB} = -30V$	$V_{CB} = -40V$	$V_{CB} = -50V$	$V_{CB} = -90V$	Min.	Typ.	Max.	Min.	Typ.
$-0.2\mu A_{dc}\Delta$						10	25		25 Mc	55
$-0.2\mu A_{dc}\Delta$						25	55		40 Mc	75
	$-0.2\mu A_{dc}\Delta$					10	25		25 Mc	55
	$-0.2\mu A_{dc}\Delta$					25	55		40 Mc	75
			$-0.2\mu A_{dc}\Delta$			10	25		25 Mc	55
			$-0.2\mu A_{dc}\Delta$			25	55		40 Mc	75
						$V_{CB} = -5V, I_E = 1mA, f = 1Kc.$			$V_{CB} = -5V, I_E = 1mA$	
$-0.1\mu A_{dc}$						14		32		1.2 Mc
$-0.1\mu A_{dc}$						28		65		1.2 Mc
		$-0.1\mu A_{dc}$				14		32		1.2 Mc
		$-0.1\mu A_{dc}$				28		65		1.2 Mc
				$-0.1\mu A_{dc}$		14		32		1.0 Mc
				$-0.1\mu A_{dc}$		28		65		1.0 Mc
					$-0.1\mu A_{dc}$	14		32		0.8 Mc

+TO-5 package—250 mw (free air), derate 1.8 mw/°C

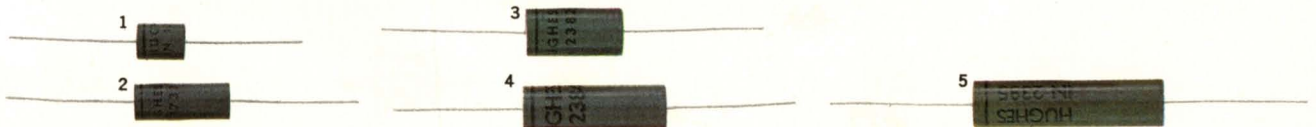
†† Collector current—limited by power dissipation

Frequency Cutoff ( $F_{\alpha b}$ ) $V_{CB} = -10V, I_E = 2mA$		Typical Output Capacity ( $C_{ob}$ ) $V_{CB} = -10V, I_E = 0, f = 140KC$	Noise Figure (NF)				Typical Input Impedance ( $h_{ib}$ ) $V_{CB} = -10V, I_E = 2mA, f = 1KC$
min.	typ.		$V_{CE} = -10V, I_E = 2mA, f = 4.3 mc$		$V_{CE} = 10V, I_E = 2mA, f = 12.5mc$		
			typ.	max.	typ.	max.	
25mc	45mc	$3 \mu\mu fd$	7	10			20 ohms
25mc	55mc	$3 \mu\mu fd$			7	10	20 ohms

HIGH VOLTAGE SILICON CARTRIDGE RECTIFIERS

JEDEC Type Number	Case Style	Rated Peak Inverse Voltage <sup>1</sup>	Absolute Maximum Ratings				Electrical Characteristics @ 25°C			
			R M S Input Voltage <sup>2</sup>	Rectified DC Output Current		Max. DC Forward Voltage Drop @ 100 mA DC	Max. DC Reverse Current @ Rated PIV ( $\mu A$ )			
				25°C	100°C		@ 25°C	@ 100°C		
1N1730	1	1000	700	200	100	5	10	100		
1N1731	1	1500	1050	200	100	5	10	100		
1N1732	2	2000	1400	200	100	9	10	100		
1N1733	2	3000	2100	150	75	12	10	100		
1N2382	3	4000	2800	150	75	18	10	100		
1N1734	3	5000	3500	100	50	18	10	100		
1N2383	4	6000	4200	100	50	27	10	100		
1N2384	4	8000	5000	70	35	27	10	100		
1N2385	5	10000	7000	70	35	39	10	100		
1N596	1	600	420	150	90	3	10	100		
1N597	1	800	560	150	90	3	10	100		
1N598	1	1000	700	150	90	3	10	100		
1N1406	1	600	420	125	70	5	10	100		
1N1407	1	800	560	125	70	5	10	100		
1N1408	1	1000	700	125	70	5	10	100		
1N1409	1	1200	840	125	70	5	10	100		
1N1410	1	1500	1050	125	70	6.25	10	100		
1N1411	2	1800	1260	125	70	7.50	10	100		
1N1412	2	2000	1400	125	70	6.25	10	100		
1N1413	2	2400	1680	125	70	7.50	10	100		

- 1. Continuous DC rating same as P.I.V.
  - 2. Resistive or inductive load
- Operating Temperature Range -55°C to +150°C ambient.



## POINT CONTACT GERMANIUM DIODES Package A

Type	Maximum PIV (Volts)	Forward Current @ 25°C At + 1 V (mA Min.)	Maximum Reverse Current @ 25°C (mA)	Continuous D.C. Forward Current (mA)	Forward Surge Current 1 Sec. (mA)
1N67A	100	4	.050mA @ -50V	40	300
1N68A	130	3	.625mA @ -100V	40	350
1N89	100	3.5	.100mA @ -50V	40	250
1N90	75	5	.500mA @ -50V	45	250
1N95	75	10	.500mA @ -50V	45	250
1N96	75	20	.500mA @ -50V	45	250
1N97	100	10	.100mA @ -50V	45	250
1N98	100	20	.100mA @ -50V	45	250
1N99	100	10	.050mA @ -50V	45	300
1N100	100	20	.050mA @ -50V	45	300
1N116	75	5	.100mA @ -50V	45	250
1N117	75	10	.100mA @ -50V	45	250
1N118	75	20	.100mA @ -50V	45	250
†1N126A	75	5	.850mA @ -50V	45	350
†1N127A	125	3	.300mA @ -50V	40	300
1N128	50	3	.010mA @ -10V	40	300
1N191	60	5	.125mA @ -50V*	45	300
1N192	60	5	.25mA @ -50V*	45	300
†1N198	100	5	.050mA @ -50V	40	300

†JAN approved

\*Measured @ 55°C



## GOLD BONDED GERMANIUM DIODES Package A

1N96A	75	40	.500 @ -50V	70	400
1N98A	100	40	.100 @ -50V	70	400
1N100A	100	40	.050 @ -50V	70	400
1N118A	75	40	.100 @ -50V	70	400
†1N270	100	200	.100 @ -50V	90	500
1N273	35	100	.020 @ -20V	80	450
†1N276	60	40	.100 @ -50V	40	400
†1N277	125	100	.250 @ -50V*	75	400
1N278	60°	20	.125 @ -50V*	35°	175°
1N279	30	100	.200 @ -20V	80	450
†1N281	75	100	.500 @ -50V	80	400
1N283	25	200	.020 @ -10V	100	500

†JAN Approved

\*Measured at 75°C



## INFRARED OPTICS—in a variety of shapes

Hughes has developed a technique for casting pure polycrystalline silicon of the highest optical quality. Starting with the cast silicon blanks in shapes of flats, domes (up to 9" diameter), lenses, and prisms, Hughes has greatly reduced the necessity of extensive grinding techniques.

Repeated spectrophotometric and scattering tests have proven that the optical properties of cast polycrystalline silicon are identical to those of single crystal silicon.

Infrared optics of germanium are also being cast utilizing the same technique.



## PACKAGED ASSEMBLIES

Available in all types of circuit configuration, these Hughes packaged assemblies are designed to meet your individual requirements. In each application careful attention is given to electrical,

thermal and mechanical design insuring maximum space utilization, improved temperature and mechanical stability and maximum internal electrical insulation between elements.



## PARAMETRIC AMPLIFIER DIODES Package A; Package B (shown)

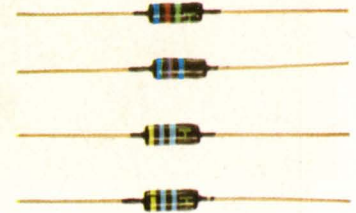
JEDEC Type	Package Type	Saturation Voltage (V <sub>s</sub> ) Min. @ 10μA	Parallel Capacitance (C <sub>p</sub> ) Note 1		Q @ 1 KMC and Zero Bias Min.	Power Dissipation @ 25°C Max.
			Min.	Max.		
1N836	A	5V	2.0μf	4.0μf	8	80mW*
1N894	A	5V	2.0μf	3.5μf	10	80mW*
1N895	A	5V	2.0μf	3.0μf	14	80mW*
1N896	A	5V	2.0μf	2.5μf	18	80mW*
1N2386	B	5V	2.0μf	4.0μf	8	100mW†
1N2627	B	5V	2.0μf	3.5μf	10	100mW†
1N2628	B	5V	2.0μf	3.0μf	14	100mW†
1N2629	B	5V	2.0μf	2.5μf	18	100mW†



1. Net Parallel Capacitance measured at 100KC and Zero Bias. Stray Capacitance (C') of the type "A" package 0.1 μf, and 0.2 μf for the type "B" package.  
 \*The derating factor of the "A" type package is 1.6 mw/°C in free air.  
 †The derating factor of the "B" type package is 2.6mw/°C with crystal end mounted in standard coaxial microwave fixture.

## VOLTAGE REGULATOR DIODES Package A

Type	Zener Breakdown Voltage (Volts)		Test Current @ 25°C (mA)	Max. Dynamic Resistance (ohms)	Max. Total Power Dissipation (mw)	
	Min.	Max.			@ 25°C	@ 150°C
1N702	2.0	3.2	5	60	250	100
1N703	3.0	3.9	5	55	250	100
1N704	3.7	4.5	5	45	250	100
1N705	4.3	5.4	5	35	250	100
1N706	5.2	6.4	5	20	250	100
1N707	6.2	8.0	5	10	250	100



\*Dynamic resistance measured at 10 mAdc with 1 mA RMS ac superimposed. Special types are available upon request. Other E.I.A. types available: 1N708-720, 1N465-470, 1N1984-1995, 1N761-769.  
 Standard Package ± 10% Tolerance. Suffix A (± 5% Tolerance).

## SILICON DIODES Dumet-stud heat sink Package G

Specifications @ 25°C

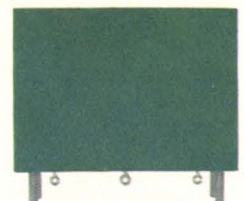
Type	PIV (V)	Average Rectified Forward Current (mA)		Peak Recurrent Forward Current (Amp)	Min. Breakdown Voltage (V) @ +100°C	Max. Reverse Current @ PIV (μA)		Max. Voltage Drop at I <sub>f</sub> = 400mA (V)
		@ 25°C	@ 150°C			@ 25°C	@ 100°C	
1N645	225	400	150	1.25	275	0.2	15	1.0
1N646	300	400	150	1.25	360	0.2	15	1.0
1N647	400	400	150	1.25	480	0.2	20	1.0
1N648	500	400	150	1.25	600	0.2	20	1.0
1N649	600	400	150	1.25	720	0.2	25	1.0

Power Dissipation . . . 600mW  
 1 Sec. Surge Current @ +25°C to +150°C . . . 3 Amps  
 Operating Temperature . . . -65°C to +150°C

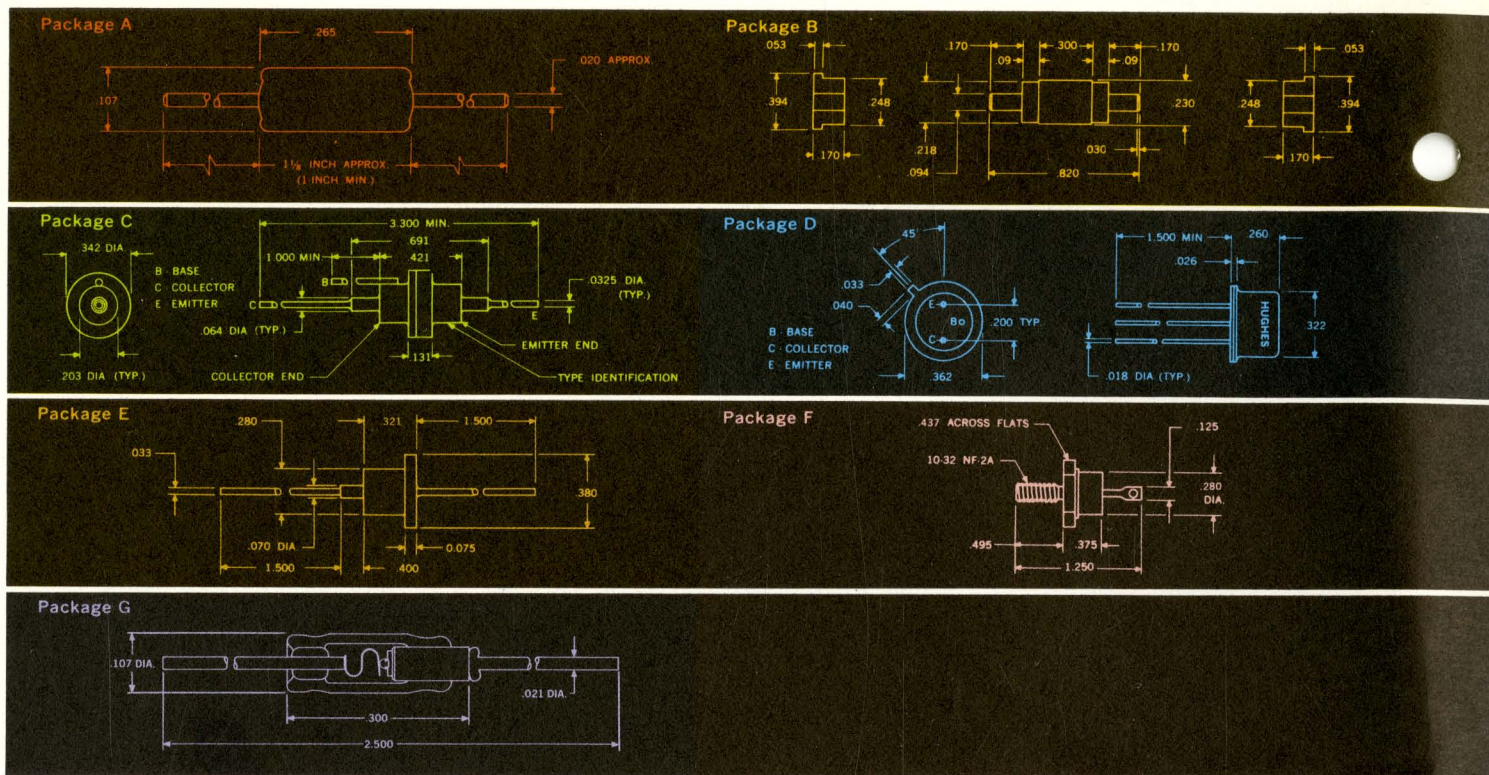
## CRYSTAL FILTERS

Types – Frequency	Bandwidth (Kc)	Shape Factor 60db/3db	Maximum Passband Ripple (db)	Maximum Insertion Loss (db)	Impedance In, Out (ohms)	Carrier Rejection (db)	Approximate Size (cubic inches)
10Mc Bandpass Filter	40 @ 3db	2.2:1	0.75	6	1.5K		2.5
100Kc Bandpass Filter	2 cps @ 6db	5:1 (30db/6db)		14	1 K		11.7
30Mc Bandpass Filter	108 @ 3db	2.1:1	±1	8	2.0K		3
1.75Mc Upper Sideband Filter	2.7 @ 3db	1.3:1 (Carrier Side)	±0.5	3	50	55	8.5
2Mc Upper Sideband Filter	7.0 @ 3db	1.3:1 (Carrier Side)	±0.5	6	6.8K	27.5	8
1.75Mc Lower Sideband Filter	2.7 @ 3db	1.3:1 (Carrier Side)	±0.5	3	50	55	8.5
1Mc Discriminator	±1.5		Linearity ±2% over 90% band	Efficiency DC out / AC in 0.7 min.	In = 50 Out = 1 meg.		3.7

All specifications determined at room temperature



**PACKAGE DIMENSIONS** All dimensions maximum unless otherwise stated.



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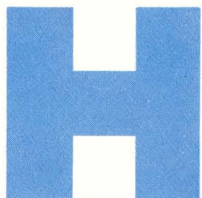
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