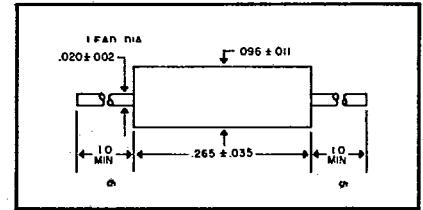


FOUR-LAYER DIODES

DO-7/DO-35 Case

DO-7 Case

Type	Switching Voltage		Holding Current
	Vs ± V @ 25°C	Range	Range
		-60 to +125°C	I _H @ 25°C
	V	V	mA
4E20-3	20±4	—	1-6
4E20-M-3	20±4	14-25	1-6
4E20-8	20±4	—	1-15
4E20-M-8	20±4	14-25	1-15
4E20-28	20±4	—	14-45
4E20-M-28	20±4	14-25	14-45
4E30-3	30±4	—	1-6
4E30-M-3	30±4	23-36	1-6
4E30-8	30±4	—	1-15
4E30-M-8	30±4	23-36	1-15
4E30-28	30±4	—	14-45
4E30-M-28	30±4	23-36	14-45
4E40-3	40±4	—	1-6
4E40-M-3	40±4	32-46	1-6
4E40-8	40±4	—	1-15
4E40-M-8	40±4	32-46	1-15
4E40-28	40±4	—	14-45
4E40-M-28	40±4	32-46	14-45
4E50-3	50±4	—	1-6
4E50-M-3	50±4	41-57	1-6
4E50-8	50±4	—	1-15
4E50-M-8	50±4	41-57	1-15
4E50-28	50±4	—	14-45
4E50-M-28	50±4	41-57	14-45

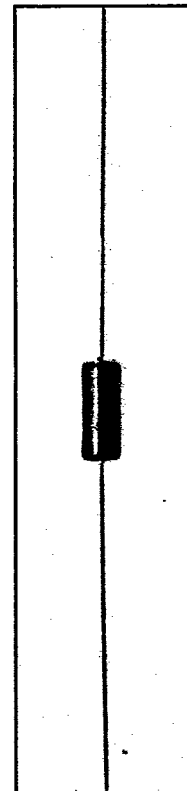


Four-layer diodes are silicon planar PNP thyristors also known as Shockley diodes. American Power Devices manufactures the broadest line of commercial, industrial and military four-layer diodes with switching voltages from 20 V to 50 V, and holding currents from 0.5mA to 45mA. They are available in DO-7 and DO-35 packages.

All four-layer diodes are manufactured in hermetically-sealed glass packages with tin plated Dumet leads for easy soldering. They are produced under conditions which result in rugged, highly reliable devices with stable characteristics.

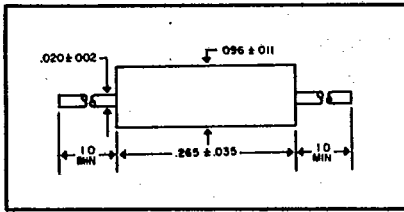
Applications for these four-layer diodes include telephone cross point switching, squib firing, speed control, light dimming, circuit protection and pulse generation.

DO-7 Case



FOUR-LAYER DIODES

DO-7 Case



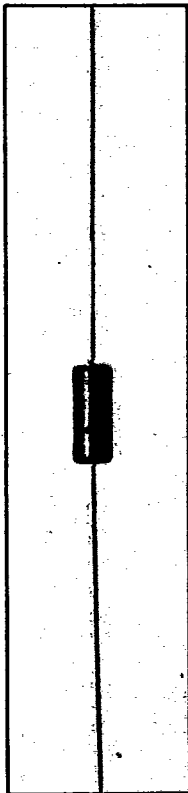
DO-7 Case

Type	Switching Voltage		Holding Current	
	$V_s \pm V @ 25^\circ C$	Range	Range	$-40 \text{ to } +85^\circ C$
		$-60 \text{ to } +125^\circ C$	$I_H @ 25^\circ C$	
V		V	mA	mA
1N3299	39 ± 4	—	1-15	—
1N3300	17.5 ± 4	—	1-15	—
1N3300A	18 ± 4	—	1-15	—
1N3489	20 ± 4	—	1-6.0	—
1N3489A	20 ± 4	—	1-6.0	—
1N3490	20 ± 4	—	14.0-45	—
1N3831	20 ± 4	14-25	0.5-15	40 Max
1N3832	25 ± 4	19-30	0.5-15	40 Max
1N3833	30 ± 4	23-36	0.5-15	40 Max
1N3834	35 ± 4	28-41	0.5-15	40 Max
1N3835	40 ± 4	32-46	0.5-15	40 Max
1N3836	45 ± 4	37-51	0.5-15	40 Max
1N3837	50 ± 4	41-57	0.5-15	40 Max
1N3839	20 ± 4	14-25	14.0-45	5 Min

DO-7 Case

Type	Switching Voltage		Holding Current	
	$V_s \pm V @ 25^\circ C$	Range	Range	$-40 \text{ to } +85^\circ C$
		$-60 \text{ to } +125^\circ C$	$I_H @ 25^\circ C$	
V		V	mA	mA
1N3840	25 ± 4	19-30	14-45	5 Min
1N3841	30 ± 4	23-36	14-45	
1N3842	35 ± 4	28-41	14-45	
1N3843	40 ± 4	32-46	14-45	
1N3844	45 ± 4	37-51	14-45	
1N3845	50 ± 4	41-57	14-45	5 Min
1N3935	30 ± 4	—	30 Min	—
1N3936	20 ± 4	—	8 Min	—
1N3772	15 ± 5	—	1.5-50	—
1N3303	33 ± 20	—	5-20	—
1N3304	39 ± 20	—	5-20	—
1N3303A	33 ± 10	—	5-20	—
1N3374A	39 ± 10	—	5-20	—

DO-7 Case



Additional Parameters For All 4-Layer Diodes @ 25°C

Switching Current	I_s	<125µA
Holding Voltage	V_h	0.5 to 1.2 Volts
On Voltage	V_{on}	<1.2V @ 70 mA
On Impedance	Z_{on}	<2 ohms @ 70 mA @ 60 Hz
Forward Leakage Current	I_{f1}	<2 µA @ 0.6 V _s
Reverse Leakage Current	I_{r1}	<2 µA @ 0.6 V _r
Reverse Breakdown Voltage	V_{rb}	>0.60 V _r
Turn On Time	T_{on}	10 to 500 ns. Dependent on target value and circuit.
Turn Off Time	T_{off}	20 to 1000 ns. Dependent on target value and circuit.
Capacitance	C	10 to 50 pf. Dependent on nominal V _r and applied voltage.
Power Rating	P	250 mW. Derating to 25% @ 125°C.
Current Carrying Capacity		250 mA steady DC. Maximum current 10 amps with duty factor, repetition rate, pulse duration and ambient temperature such that power rating is not exceeded.
Ambient Temperature Operating Range		-65°C to +150°C.
Storage Temperature		-75°C to +200°C.

