



**american**  
power devices, inc.

1N4001-1N4007

# 1A plastic silicon rectifiers

## FEATURES

- Low cost
- High current capability
- Low leakage
- Low forward voltage
- High surge capability
- JEDEC DO-41 molded plastic case

## MAXIMUM RATINGS

- Operating Temperature: -65°C to +175°C
- Storage Temperature: -65°C to +175°C

## ELECTRICAL CHARACTERISTICS

TYPE	PEAK REVERSE VOLTAGE	MAX. RMS VOLTAGE	MAX. DC BLOCKING VOLTAGE	MAX. AVERAGE FORWARD RECTIFIED CURRENT	PEAK FORWARD SURGE CURRENT $I_{FSM}$ (SURGE)	MAX. FORWARD VOLTAGE @ 1A DC	MAX. DC REVERSE CURRENT @ RATED DC BLOCKING VOLTAGE	TYPICAL JUNCTION CAPACITANCE
	V	V	V	A	A	V	$\mu A$	pF @ $V_F = 4V$
1N4001	50	35	50	1.0	50	1.1	5.0	20
1N4002	100	70	100	1.0	50	1.1	5.0	20
1N4003	200	140	200	1.0	50	1.1	5.0	20
1N4004	400	280	400	1.0	50	1.1	5.0	20
1N4005	600	420	600	1.0	50	1.1	5.0	20
1N4006	600	560	800	1.0	50	1.1	5.0	20
1N4007	1000	700	1000	1.0	50	1.1	5.0	20

## MECHANICAL CHARACTERISTICS

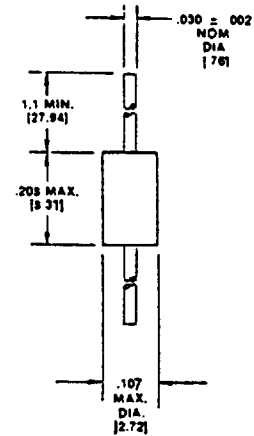


FIGURE 1 all dimensions in INCH mm

CASE: Molded plastic  
LEAD MATERIAL: Copper, tin plated  
MARKING: Body painted, alpha numeric  
POLARITY: Cathode band

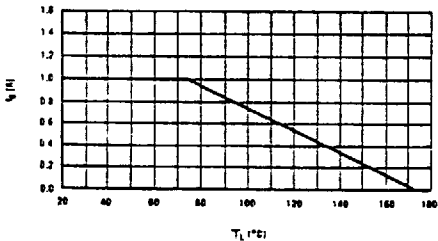


Figure 2 FORWARD DERATING CURVE

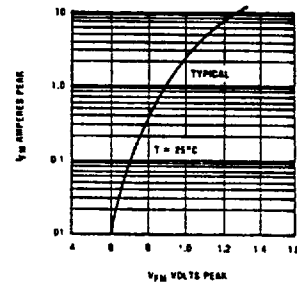


Figure 3 FORWARD CHARACTERISTICS

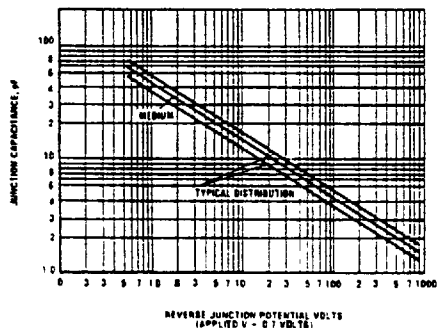


Figure 4 JUNCTION CAPACITANCE

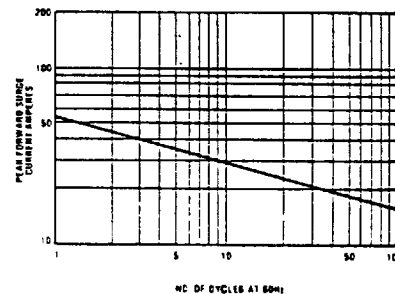


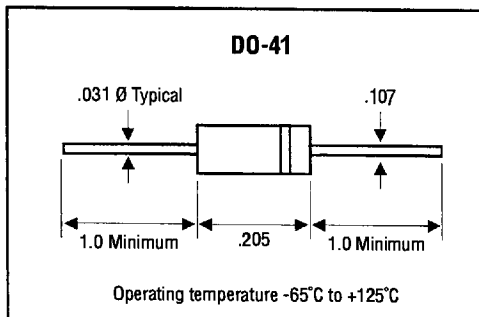
Figure 5 PEAK FORWARD SURGE CURRENT

# FOUR LAYER DIODES

Part #	Switching Voltage		Holding Current Range
	$V_S \pm V @ 25^\circ\text{C} (V)$	Range -60 to +125°C (V)	$I_H @ 25^\circ\text{C} (mA)$
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

# PLASTIC RECTIFIERS

1.0A				
Part #	Peak Inverse Voltage	Peak Forward Surge Current @ 8.3ms Superimposed	Maximum Forward Voltage @ Ta 25°C @ Rated Io	Maximum Reverse Current @ 25°C @ Rated PIV
	PIV (V)	$I_{FSM} (A)$	$V_{FM} (V)$	$I_R (\mu A)$
1N4001	50	50	1.0	1.0
1N4001G	50	30	1.1	5.0
1N4002	100	50	1.0	1.0
1N4002G	100	30	1.1	5.0
1N4003	200	50	1.0	1.0
1N4003G	200	30	1.1	5.0
1N4004	400	50	1.0	1.0
1N4004G	400	30	1.1	5.0
1N4005	600	50	1.0	1.0
1N4005G	600	30	1.1	5.0
1N4006	800	50	1.1	1.0
1N4006G	800	30	1.1	5.0
1N4007	1000	50	1.1	1.0
1N4007G	1000	30	1.1	5.0



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