

1N3899 THRU 1N3903

20 AMP

FAST RECOVERY RECTIFIER

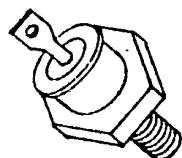
50-400 VOLTS

T-03-19



14830 Valley View Avenue
La Mirada, California 90638
(213) 921-9660
TWX 910-583-4807
FAX 213-921-2396

CASE STYLE J
(JEDEC DO-5)



FEATURES

- FAST RECOVERY 100 NS MAX
- PIV TO 400 VOLTS
- LOW REVERSE LEAKAGE
- HERMETICALLY SEALED
- SINGLE CHIP CONSTRUCTION
- HIGH SURGE RATING 250 AMPS
- LOW THERMAL RESISTANCE
- FOR REVERSE POLARITY ADD "R" TO PART NUMBER

MAXIMUM RATINGS

Rating		Symbol	Value	Unit
Peak Repetitive Reverse Voltage and DC Blocking Voltage	1N3899	$V_{RM} (rep)$ V_R	50	Volts
	1N3900		100	
	1N3901		200	
	1N3902		300	
	1N3903		400	
RMS Reverse Voltage	1N3899	V_r	35	Volts
	1N3900		70	
	1N3901		140	
	1N3902		210	
	1N3903		280	
Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60Hz, Sine Wave, $T_C = 55^\circ C$)		I_O	20	Amps
Peak Repetitive Forward Current ($T_C = 55^\circ C$, 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses)		$I_{FM} (rep)$	100	Amps
Peak Surge Current ($T_C = 55^\circ C$, Superimposed on Rated Current at Rated Voltage, 8.3 ms Pulse)		$I_{FM} (surge)$	250	Amps
Operating and Storage Temperature		T_J, T_{stg}	-65 to +175	$^\circ C$

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.8	$^\circ C/W$

ELECTRICAL CHARACTERISTICS

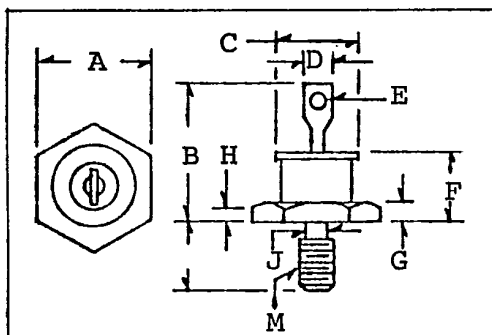
12E D 8366011 0001820 4

Characteristics	Symbol	Value	Unit
Max Full Cycle Forward Voltage Drop, Averaged Over Full Cycle (I_O (Max), 60 Hz Square Wave, $T_C = 55^\circ\text{C}$)	$V_{F(AV)}$	---	Vdc
Max Instantaneous Forward Drop ($I_F = 20$ Adc, $T_C = 25^\circ\text{C}$, 300 μs Pulse) ($I_F = 63$ Adc, $T_C = 150^\circ\text{C}$, 300 μs Pulse)	V_F	1.5 1.4	Vdc
Max Full Cycle Reverse Leakage Current, Averaged Over Full Cycle (Rated V_R , 60Hz, Square Wave, $T_C = 100^\circ\text{C}$)	$I_{R(AV)}$	6	mA
Max Reverse Leakage Current (Rated V_R , $T_C = 25^\circ\text{C}$)	I_R	.05	mA
Max Junction Capacitance ($V_R = 10$ V, $T_C = 25^\circ\text{C}$)	C_J	100	pf

REVERSE RECOVERY CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time ($I_F = 500\text{ma}$, $I_R = 1\text{A}$, $I_{RR} = 250\text{ma}$) ($I_F = 1.0$ Amp to $V_R = 30$ Vdc.)	t_{rr}	---	100	200	ns

PHYSICAL DIMENSIONS

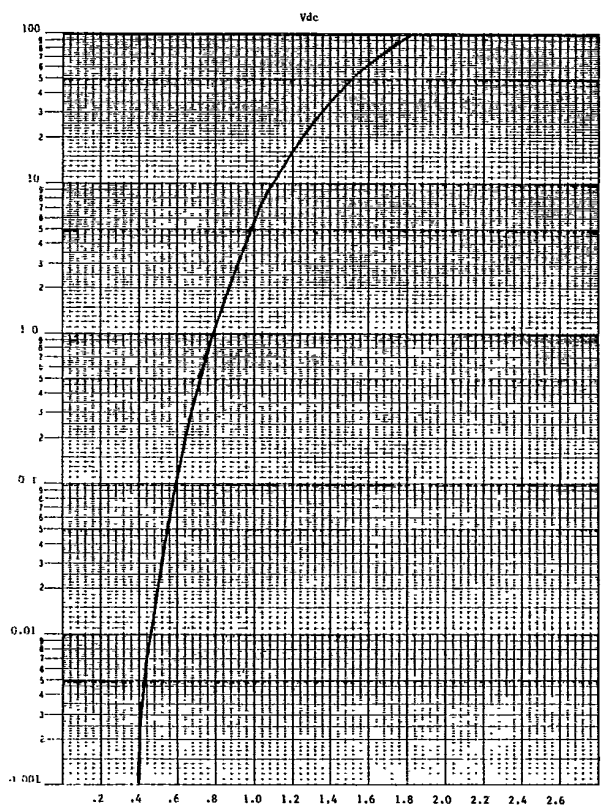


KEY TO DIMENSIONS:

(Inches)

- A = .667 - .687
 B = 1.000 MAX.
 C = .667 MAX.
 D = .375 MAX.
 E = .140 - .175
 F = .450 MAX.
 G = .115 - .200
 H = .060 MIN.
 J = .220 - .249
 K = .422 - .453
 M = $\frac{1}{4}$ -28 UNF-2A

TYPICAL OPERATING CURVES



SOLID STATE DEVICES, INC.