PRELIMINARY

SOLID STATE DEVICES, INC

14849 Firestone Boulevard · La Mirada,CA 90638
Phone: (714) 670-SSDI (7734) · Fax: (714) 522-7424

1N6686-1N6687 thru 1N6686US-1N6687US

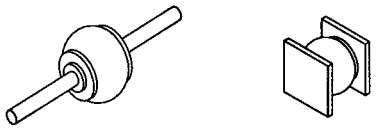
Designer's Data Sheet

20 AMP
100-200 VOLTS
40 nsec
HYPER FAST
RECTIFIER

FEATURES:

- Replaces DO-4 and DO-5 (1N5816, 1N6306)
- High Current Version of 1N5811
- Hyper Fast Recovery
- PIV to 200 Volts
- Low Reverse Leakage Current
- Hermetically Sealed Void-Free Construction *
- Monolithic Single Chip Construction
- High Surge Rating
- Low Thermal Resistance
- Available in Surface Mount Versions (-US Suffix)
- TX, TXV, and Space Level Screening Available

AXIAL & SURFACE MOUNT



MAXIMUM RATINGS

RATING	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse and DC Blocking Voltage			
1N6686 & 1N6686US	V_{RRM}	100	**Volts**
1N6687 & 1N6687US	V_{RWM}	200	
	V_R		
Average Rectified Forward Current (Resistive Load, 60Hz, Sine Wave, TA=25°C)	**Io**	20	**Amps**
Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on Io, allow junction to reach equilibrium between pulses, TA=25°C)	I_{FSM}	375	**Amps**
Operating and storage temperature	**Top & Tstg**	-65 to +175	**°C**
Maximum Thermal Resistance			**°C/W**
Junction to Lead, L=3/8" (1N6686-1N6687)	$R_{\theta JL}$	4	
Junction to End Tab (1N6686US-1N6687US)	$R_{\theta JE}$	3.5	

* PIND Testing not Required on Void Free devices per MIL-S-19500

1N6686-1N6687 thru N6686US-1N6687US

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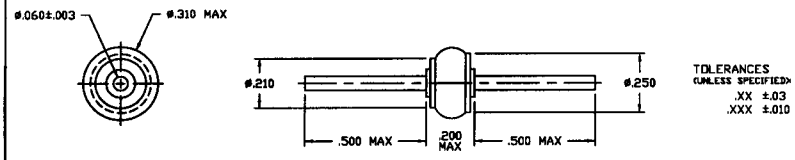
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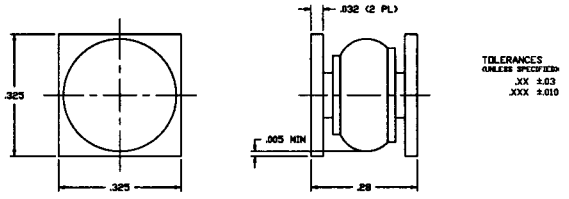
ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	SYMBOL	MAXIMUM	UNIT
Instantaneous Forward Voltage Drop (IF = 5 Adc, TA=25˚C, 300µs Pulse) (IF =20 Adc, TA=25˚C, 300µs Pulse) (IF =70 Adc, TA=25˚C, 300µs Pulse)	VF	0.78 0.875 1.0	Vdc
Instantaneous Forward Voltage Drop (IF = 5 Adc, TA= - 65˚C, 300µs Pulse)	VF	1.0	Vdc
Reverse Leakage Current (Rated VR, TA=25˚C, 300µs pulse minimum)	IR	50	µA
Reverse Leakage Current (Rated VR, TA=100˚C, 300µs pulse minimum)	IR	10	mA
Junction Capacitance (VR = 10 Vdc, TA=25˚C, f= 1 MHz)	CJ	350	pf
Reverse Recovery Time (IF=500mA, IR=1 A, IRR=250mA, TA=25˚C)	trr	40	nsec

CASE OUTLINE:AXIAL



CASE OUTLINE: SURFACE MOUNT



TYPICAL OPERATING CURVES

TA=25˚C Unless otherwise specified

