Solid State Devices, Inc.
14701 Firestone Blvd * La Mirada, Ca 90638
Phone: (562) 404-4474 * Fax: (562) 404-1773
ssdi@ssdi-power.com * www.ssdi-power.com

1N7066 thru 1N7068
Series

Designer's Data Sheet

Part Number/Ordering Information [1/]

1N70 ___ ___ ___

- **Screening** [2/]
  - ___ = Not Screened
  - TX = TX Level
  - TXV = TXV Level
  - S = S Level
- **Package Type**
  - ___ = Axial Leaded
  - SMS = Surface Mount Square Tab
  - FL = Flat Leads
- **Voltage/Family**
  - 66 = 100V
  - 67 = 150V
  - 68 = 200V

10 AMP
HYPERFAST RECOVERY RECTIFIER
100 – 200 VOLTS, 30 ns

FEATURES:

- Hyper fast reverse recovery: 30ns maximum [4/]
- High surge current: 350 A maximum
- Hermetically sealed
- Low forward voltage drop .95 @10A
- Void free ceramic frit glass construction
- High temperature category I eutectic metallurgical bond
- Available in axial leaded, square tab, and flat leads versions
- TX, TXV, and S-level screening available [2/]
- Available as a QPL product per MIL-PRF-19500/768
- Axial lead higher current replacements for: 1N5807, 1N5809, 1N5811
- Possible SMS replacements for stud mount: 1N5812, 1N5814, 1N5816

MAXIMUM RATINGS[3/]

RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage and DC Blocking Voltage	1N7066 1N7067 1N7068	V_{RRM} V_{RWM} V_R	100 150 200	V
Average Rectified Forward Current (Axial $T_L \le 55°C$; SMS $T_{EC} \le 100°C$) [5/]		I_O	10	A
Peak Surge Current (8.3 ms pulse, half sine wave, superimposed on Io, V_{RWM} = rated, allow junction to reach equilibrium between pulses, $T_A = 25°C$)		I_{FSM}	350	A
Operating & Storage Temperature		T_J and T_{STG}	-65 to +175	°C
Thermal Resistance	Junction to Lead for Axial & FL, L =.125" Junction to End Tab for Surface Mount	$R_{\theta JL}$ $R_{\theta JE}$	8 4.5	°C/W

NOTES:

1/ For ordering information, price, operating curves, and availability- contact factory.

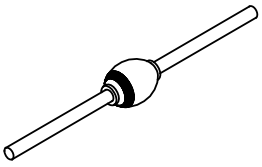
2/ Screening based on MIL-PRF-19500. Screening flows available on request.

3/ Unless otherwise specified, all electrical characteristics @ 25°C.

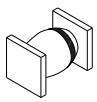
4/ I_F = 1A, I_R = 1A, I_{RR} = 0.1A, $T_A = 25°C$

5/ Operating at higher I_O currents may be achieved based on specific application and device mounting if T_J is maintained below 175°C.

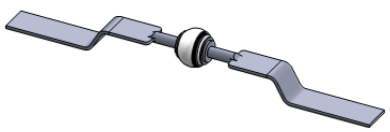
Axial Leaded



SMS



Flat Leads (FL)



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ELECTRICAL CHARACTERISTICS[3/]

CHARACTERISTICS		SYMBOL	MIN	MAX	UNIT
Instantaneous Forward Voltage Drop 300 µs pulse	I_F = 6.0 Adc	V_{F1}	-	0.900	Vdc
	I_F = 10 Adc	V_{F2}	-	0.950	
	I_F = 20 Adc	V_{F3}	-	1.050	
	I_F = 6.0 Adc, T_A = +125°C	V_{F4}	-	0.850	
	I_F = 6.0 Adc, T_A = +150°C	V_{F5}	-	0.780	
	I_F = 6.0 Adc, T_A = -55°C	V_{F6}	-	1.050	
Reverse Leakage Current At rated V_R, 300 µs pulse	T_A = +25°C	I_{R1}	-	1	µA
	T_A = +125°C	I_{R2}	-	100	µA
	T_A = +150°C	I_{R3}	-	500	µA
Breakdown Voltage I_R = 100 µA	1N7066	BV_R	110	-	V
	1N7067		160	-	
	1N7068		210	-	
Junction Capacitance V_R = 10 Vdc, f = 1 MHz		C_J	-	80	pF
Reverse Recovery Time I_F = 1 A, I_R = 1 A, I_{RR} = 0.1 A		t_{RR}	-	30	ns

Fig.1 Typical Leakage Current
I_R vs V_R vs T_C

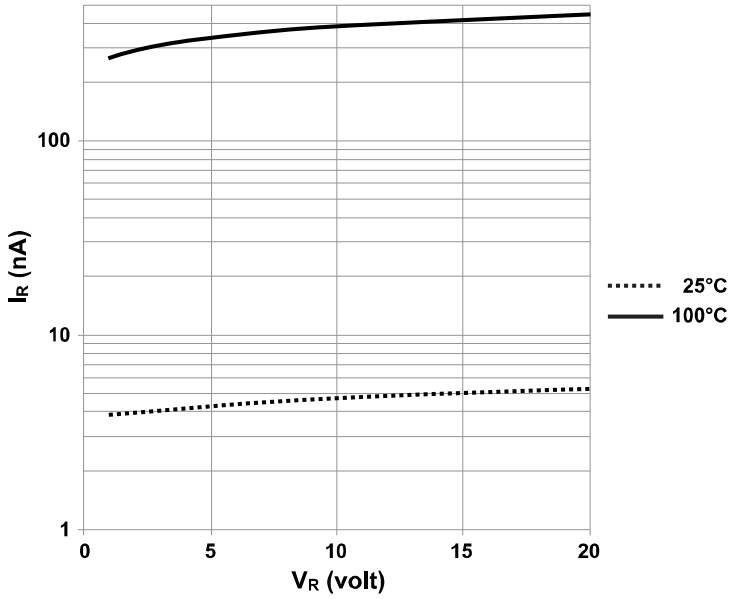
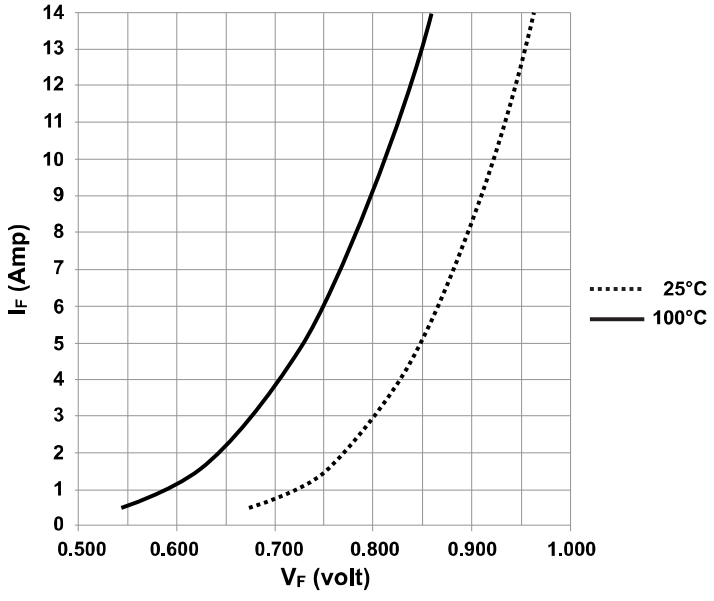


Fig.2 Typical Forward Voltage
I_F vs V_F vs T_C



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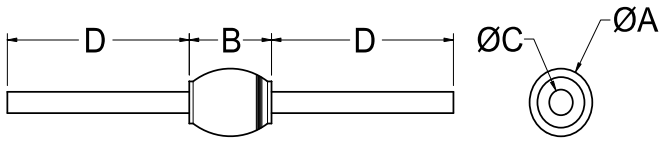
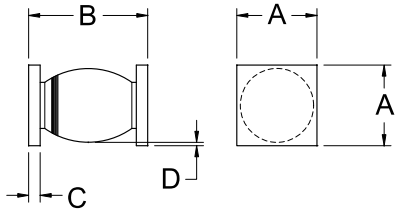
Package Outlines:

AXIAL LEADED		
DIMENSIONS (inches)		
DIM.	Minimum	Maximum
A	.135	.165
B	.135	.155
C	.036	.042
D	.900	1.30

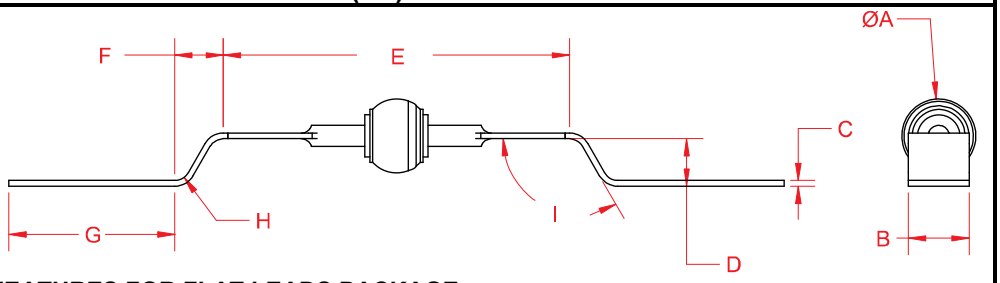


SMS		
DIMENSIONS (inches)		
DIM.	Minimum	Maximum
A	.172	.180
B	.180	.220
C	.020	.028
D	.002	---



FLAT LEADS (FL)

DIMENSIONS (inches)		
DIM.	Minimum	Maximum
ØA	.135	.165
B	.065	.085
C	.015	.021
D	.084	.104
E	.620	.660
F	REF .090	
G	.295	.335
H	REF R.03	
I	REF 120°	



FEATURES FOR FLAT LEADS PACKAGE

- Solid silver leads
- Provide stress relief (customizable to customer specifications)
- Ideal for welding to BUS bar
- Typical application: solar array bypass / blocking diodes for photovoltaic (PV) panels