



# Solid State Devices, Inc.

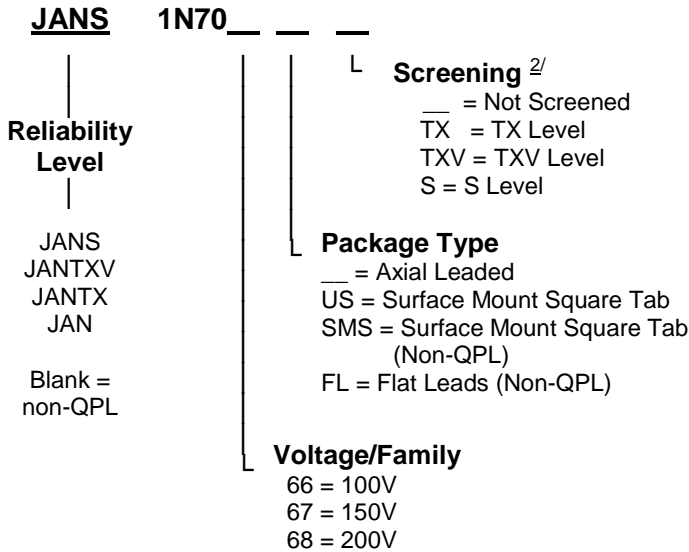
14701 Firestone Blvd \* La Mirada, Ca 90638  
Phone: (562) 404-4474 \* Fax: (562) 404-1773  
ssdi@ssdi-power.com \* www.ssdi-power.com

## 1N7066 thru 1N7068 Series

Qualified Levels: JANS, JANTXV, JANTX, JAN  
i.a.w MIL-PRF-19500/768

### Designer's Data Sheet

#### Part Number/Ordering Information <sup>1/</sup>



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

#### FEATURES:

- Hyperfast reverse recovery: 30ns maximum <sup>4/</sup>
- High surge current: 250 A maximum
- Hermetically sealed
- Low forward voltage drop .95 V @10 A
- 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 <sup>2/</sup>
- 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<sup>3/</sup>

RATING		SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage and DC Blocking Voltage	1N7066	V <sub>RRM</sub>	100	V
	1N7067	V <sub>RWM</sub>	150	
	1N7068	V <sub>R</sub>	200	
Average Rectified Forward Current (Axial T <sub>L</sub> ≤ 55°C; US / SMS T <sub>EC</sub> ≤ 100°C) <sup>5/</sup>		I <sub>o</sub>	10	A
Peak Surge Current (8.3 ms pulse, half sine wave, superimposed on I <sub>o</sub> , V <sub>RWM</sub> = rated, allow junction to reach equilibrium between pulses, T <sub>A</sub> = 25°C)		I <sub>FSM</sub>	250	A
Operating & Storage Temperature		T <sub>J</sub> and T <sub>STG</sub>	-65 to +175	°C
Thermal Resistance	Junction to Lead for Axial & FL, L = .125"	R <sub>θJL</sub>	8	°C/W
	Junction to End Tab for Surface Mount	R <sub>θJE</sub>	4.5	

#### 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<sub>F</sub> = 1A, I<sub>R</sub> = 1A, I<sub>RR</sub> = 0.1A, T<sub>A</sub> = 25°C
- 5/ Operating at higher I<sub>o</sub> currents may be achieved based on specific application and device mounting if T<sub>J</sub> is maintained below 175°C.

Axial Leaded  
( )

Surface Mount  
Square Tab (US)

Flat Leads  
(FL)



NOTE: All specifications are subject to change without notification. SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RC0119M

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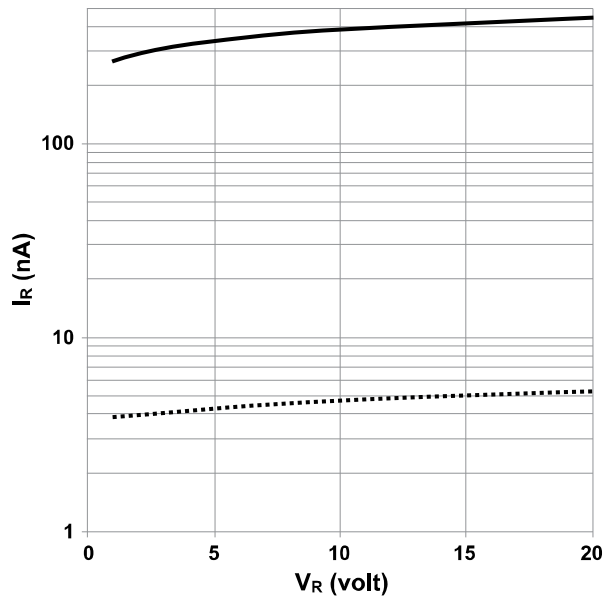
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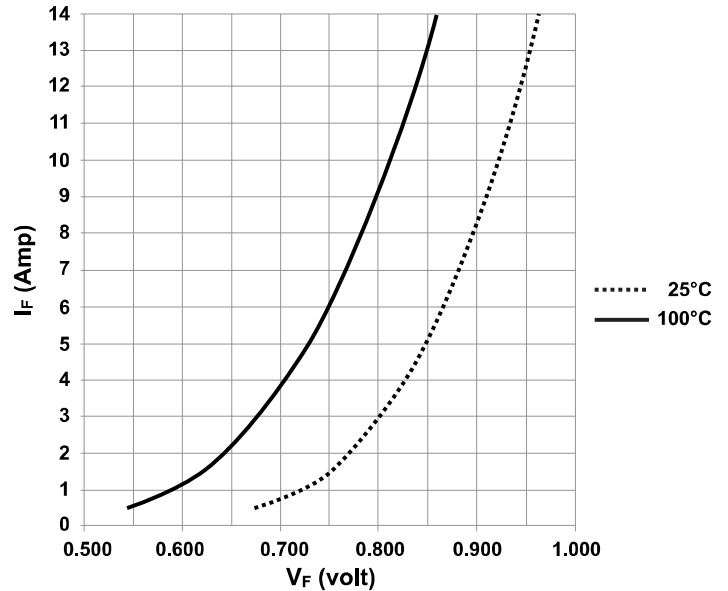
## ELECTRICAL CHARACTERISTICS<sup>3/</sup>

CHARACTERISTICS	SYMBOL	MIN	MAX	UNIT	
<b>Instantaneous Forward Voltage Drop</b> 300 $\mu$ s 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, $T_A = +125^\circ\text{C}$	$V_{F4}$	-	0.850	
	$I_F = 6.0$ Adc, $T_A = +150^\circ\text{C}$	$V_{F5}$	-	0.780	
	$I_F = 6.0$ Adc, $T_A = -55^\circ\text{C}$	$V_{F6}$	-	1.050	
<b>Reverse Leakage Current</b> At rated $V_R$ , 300 $\mu$ s pulse	$T_A = +25^\circ\text{C}$	$I_{R1}$	-	1	$\mu\text{A}$
	$T_A = +125^\circ\text{C}$	$I_{R2}$	-	100	$\mu\text{A}$
	$T_A = +150^\circ\text{C}$	$I_{R3}$	-	500	$\mu\text{A}$
<b>Breakdown Voltage</b> $I_R = 100 \mu\text{A}$	1N7066	$BV_R$	110	-	V
	1N7067		160	-	
	1N7068		210	-	
<b>Junction Capacitance</b> $V_R = 10$ Vdc, $f = 1$ MHz		$C_J$	-	80	pF
<b>Reverse Recovery Time</b> $I_F = 1$ 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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 Series**

**Package Outlines:**

AXIAL LEADED ( )			SURFACE MOUNT SQUARE TAB (US / SMS)		
DIMENSIONS (inches)			DIMENSIONS (inches)		
DIM.	Minimum	Maximum	DIM.	Minimum	Maximum
A	.135	.165	A	.172	.180
B	.135	.155	B	.180	.220
C	.036	.042	C	.020	.028
D	.900	1.30	D	.002	---

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

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