

1-Ampere, 50-1000 Voltage Surface Mount General Purpose Silicon Rectifiers

■ Features

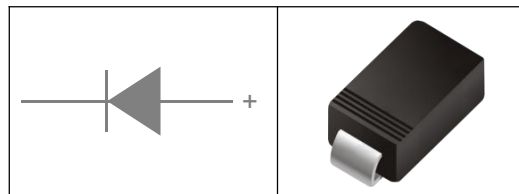
- Glass passivated chip
- Low reverse leakage current
- High surge current capability
- For surface mounted applications
- The plastic case material has UL flammability classification rating 94V-0

■ Mechanical Data

- Package: SMA
- Polarity: As marked
- Lead free complies with the EU ROHS directive
- Terminals: Tin plated leads, solderable per Mil-STD-750 Method 2026



Key Parameters		
Parameter	Value	Unit
I_F	1	A
V_{RRM}	50~1000	V
I_{FSM}	30	A
Package	SMA	



■ Typical applications

- For use in general purpose rectification of power supplies, inverters, converters and freewheeling diodes for consumer, and telecommunication.

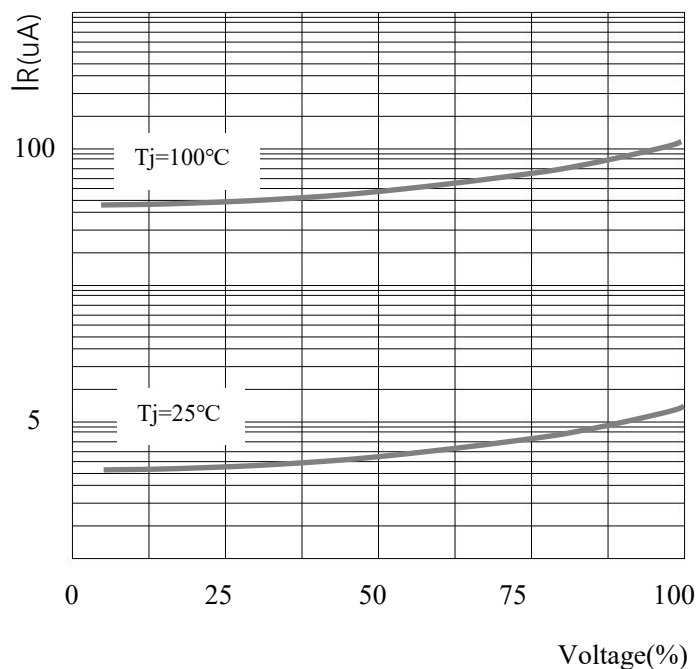
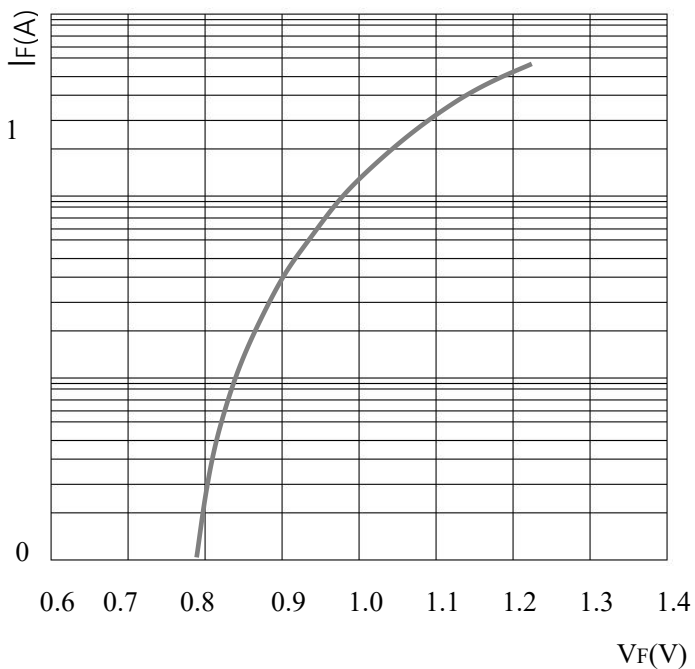
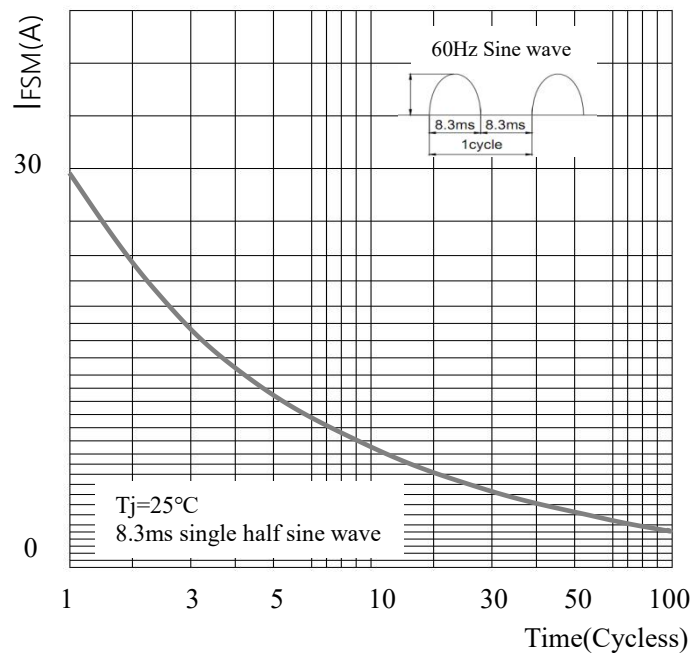
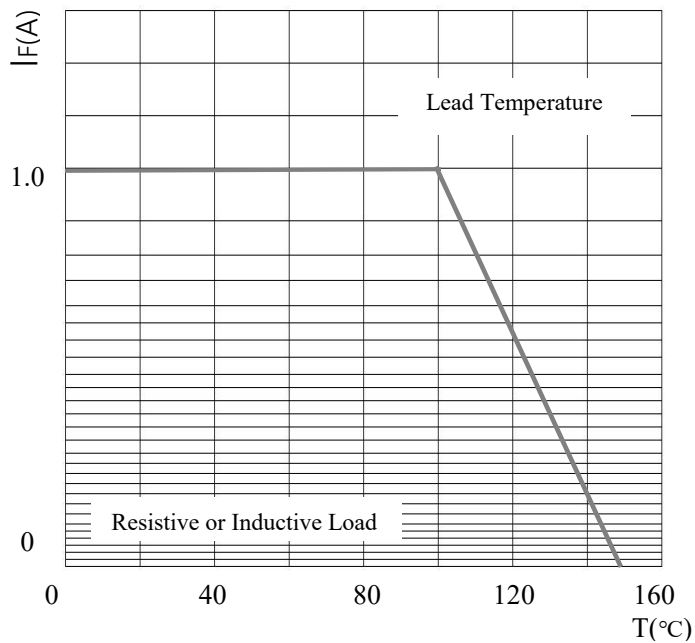
■ Maximum Ratings @ $T_a = 25^\circ\text{C}$ unless otherwise noted

PARAMETER	SYMBOL	1N4001 M1	1N4002 M2	1N4003 M3	1N4004 M4	1N4005 M5	1N4006 M6	1N4007 M7	UNIT
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RSM}	35	70	140	280	420	560	700	V
Maximum average forward rectified current at $T_c=25^\circ\text{C}$	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L=100^\circ\text{C}$	I_{FM}	1							A
Peak forward surge current 8.3 ms single half sine wave superimposed on rated load	I_{FSM}	30							A
Peak forward surge current 1.0 ms single half sine wave superimposed on rated load		60							
Rating for fusing, $1\text{ms} < t < 8.3\text{ms}$, $T_j=25^\circ\text{C}$	I^2t	3.7							A^2s
Junction temperature range	T_j	$-55 \sim +150$							$^\circ\text{C}$
Storage temperature range	T_{STG}	$-55 \sim +150$							$^\circ\text{C}$

■ Electrical Characteristics @ $T_a = 25^\circ\text{C}$ unless otherwise noted

PARAMETER	TEST CONDITIONS		SYMBOL	RATED VALUE	UNIT
Maximum instantaneous forward voltage	$I_F=1.0\text{A}$		V_F	1.1	V
Maximum DC reverse current at rated DC blocking voltage	$V_{RM}=V_{RRM}$	$T_j=25^\circ\text{C}$	I_R	5	μA
		$T_j=100^\circ\text{C}$		100	μA

■Characteristic Curve



■Package Outline Dimensions (SMA/DO-214AC)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.25	1.65	0.049	0.065
B	3.95	4.65	0.156	0.183
C	2.35	2.85	0.093	0.112
D	1.98	2.41	0.078	0.095
E	0.76	1.52	0.030	0.060
F	-	0.203	-	0.008
G	4.70	5.30	0.185	0.209
H	0.15	0.31	0.006	0.012

■Suggested Pad Layout

Symbol	Reference Dimensions	
	Millimeters	Inches
	A	1.70
B	2.10	0.082
C	2.3	0.090

■Ordering Information

Package	Reel Size	Reel(pcs)	Identification
SMA	7"	2000	
SMA	13"	5000	

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