

SuperDiode – 1.0Amp Ultra-Fast Recovery Surface Mounted Rectifier



1. Features

- Flammability Classification 94V-0
- Glass passivated Junction chip
- Idea for printed circuit board
- High forward surge current capability
- High temperature soldering guaranteed: 250 °C/10 seconds at terminals

2. Mechanical Data

- Case: JEDEC DO-214AC molded plastic body
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any

3. Marking and Circuit

Marking	Circuit
	

4. Specification

Absolute Maximum Rating & Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameters	Symbol	US1A	US1B	US1D	US1G	US1J	US1K	US1M	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L=100^{\circ}C$	$I_{(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0							A
Maximum instantaneous forward voltage at 1.0A	V_F	1.0		1.4	1.7			V	
Maximum DC reverse current at rated DC blocking voltage	I_R	$T_A=25^{\circ}C$							uA
		$T_A=125^{\circ}C$							
Maximum reverse recovery time (NOTE 1)	T_{RR}	50				75			ns
Typical junction capacitance (NOTE 2)	C_J	20.0							pF
Typical thermal resistance	$R_{\theta JA}$	80.0							$^{\circ}C/W$
Operating junction temperature range	T_J	-55~150							$^{\circ}C$
Storage temperature range	T_{STG}	-55~150							$^{\circ}C$

Note:

- 1.Reverse recovery condition $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$
- 2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

5. Typical Characteristic

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

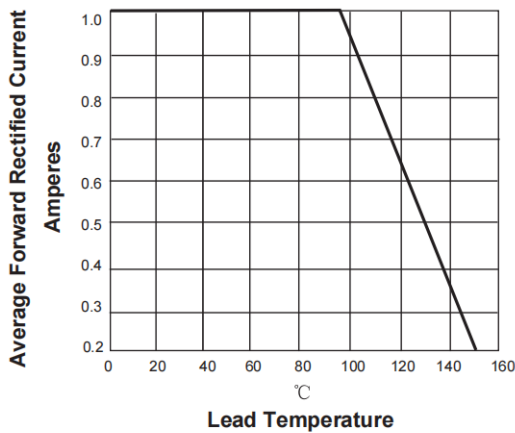


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

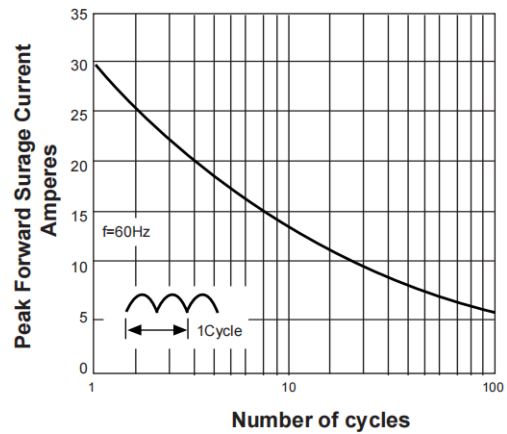


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

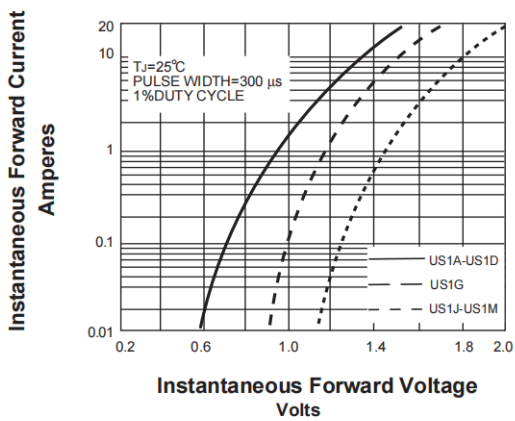
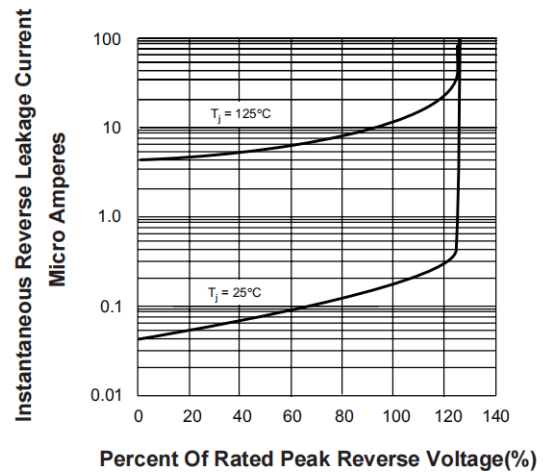
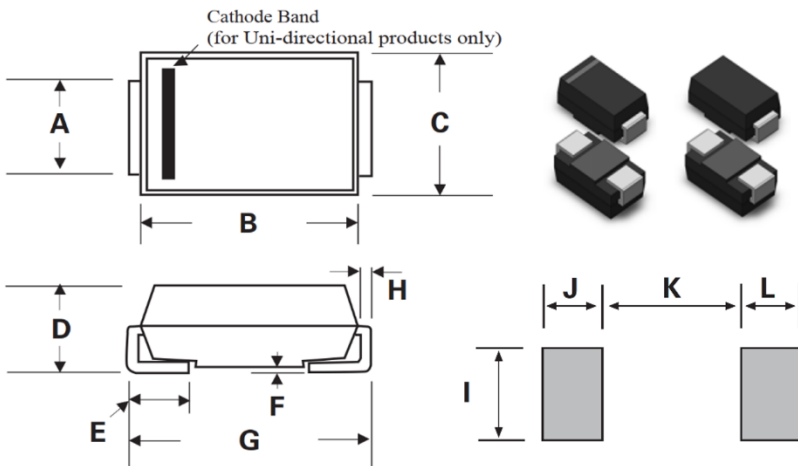


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



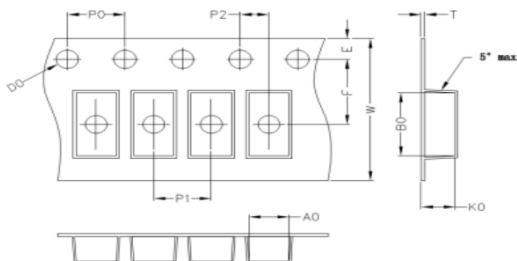
6. Dimension (SMA/DO-214AC)



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.049	0.065	1.25	1.65
B	0.157	0.177	3.99	4.5
C	0.1	0.11	2.54	2.79
D	0.078	0.09	1.98	2.29
E	0.03	0.06	0.78	1.52
F	-	0.008	-	0.203
G	0.194	0.208	4.93	5.28
H	0.006	0.012	0.152	0.305
I	0.07	-	1.8	-
J	0.082	-	2.1	-
K	-	0.09	-	2.3
L	0.082	-	2.1	-

7. Package Information

Carrier Dimension(mm)



A0	B0	K0	D0	E	F
2.80	5.30	2.36	1.55	1.75	5.50
P0	P1	P2	T	W	Tolerance
4.0	4.0	2.0	0.25	12	0.1

Package Specifications

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SMA	11'	278	5	285	10	355*310*310	80
	13'	330	7.5	340	15	360*360*360	120

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