SURFACE MOUNT ULTRAFAST RECTIFIER
VOLTAGE 50 to 1000 Volt CURRENT 1 Ampere

Features

- For surface mounted applications in order to optimize board space
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory
- Flammability Classification 94V-O
- Glass passivated junction
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Exsemi technology

Mechanical Data

- Case: JEDEC DO-214AC molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging: 12mm tape (EIA-481)

Maximum Ratings (T_A=25°C unless otherwise noted)

PARAM	SYMBOL	US1A	US1B	US1D	US1G	US1J	US1K	US1M	UNITS
Maximum Recurrent 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 Current	$I_{F(AV)}$	1							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Maximum Forward Voltage at 1A	V_F	1			1.3	1.7			V
Maximum DC Reverse Current at Rated DC Blocking Voltage T_J=25°C T_J=125°C	I_R	5 100							μA
Typical Junction Capacitance (Note 2)	C_J	17							pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$ $R_{\theta JA}$	30 75							°C / W
Maximum Reverse Recovery Time (Note 1)	T_{RR}	50				75			ns
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to +150							°C

NOTES:1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=-1A, I_{rr}=-0.25A

2. Measured at 1 MHz and applied V_r = 4volts.

3. 8mm^2 (0.013mm thick) land areas.

RATING AND CHARACTERISTIC CURVES

Fig.1 FORWARD CURRENT DERATING CURVE

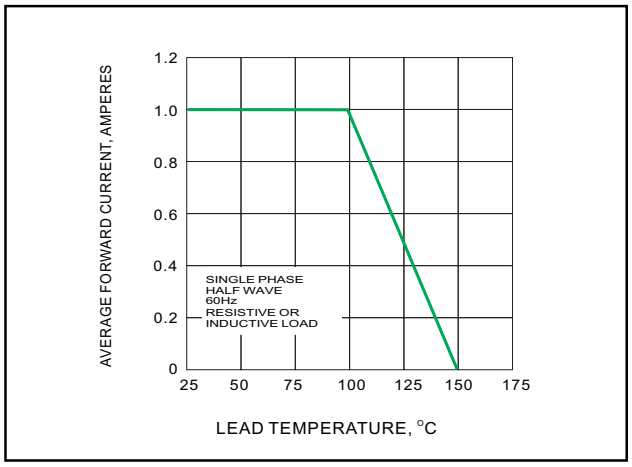


Fig.2 PEAK FORWARD SURGE CURRENT

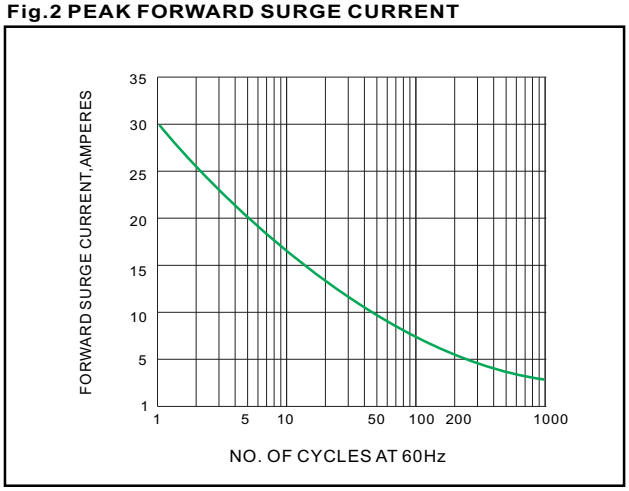


Fig.3 FORWARD CHARACTERISTICS

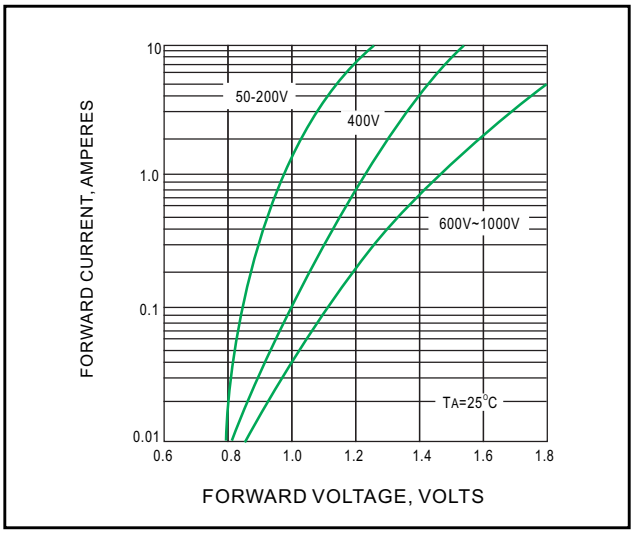


Fig.4-TYPICAL REVERSE CHARACTERISTIC

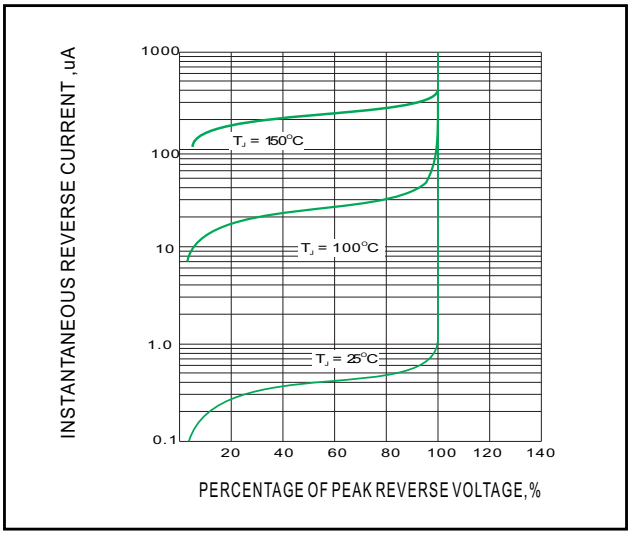
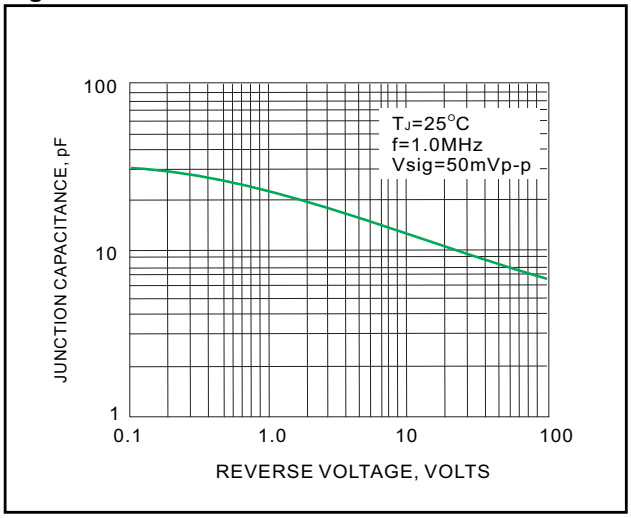
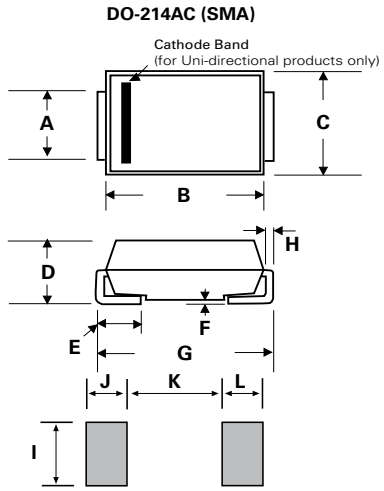


Fig.5 TYPICAL JUNCTION CAPACITANCE



Dimensions

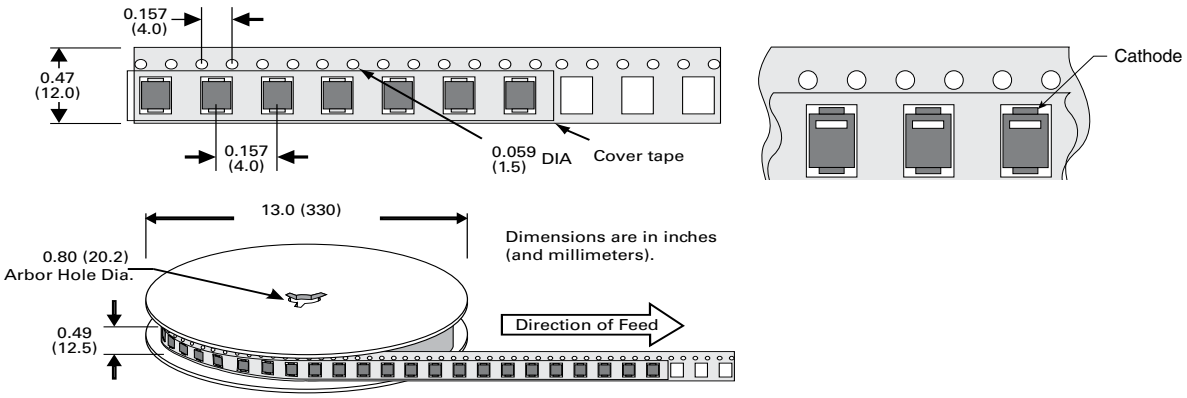


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.047	0.067	1.200	1.700
B	0.154	0.185	3.900	4.700
C	0.095	0.114	2.400	2.900
D	0.075	0.096	1.900	2.440
E	0.030	0.060	0.760	1.520
F	-	0.008	-	0.203
G	0.185	0.222	4.700	5.660
H	0.006	0.012	0.152	0.305
I	0.066	-	1.680	-
J	0.068	-	1.720	-
K	-	0.090	-	2.300
L	0.068	-	1.720	-

Ordering Information

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
US1X	DO-214AC	5000	Tape & Reel - 12mm tape/13" reel	EIA STD RS-481

Tape and Reel Specication



Note: Devices are packde in accordance with EIA standard RS-481-Aand specification given above.