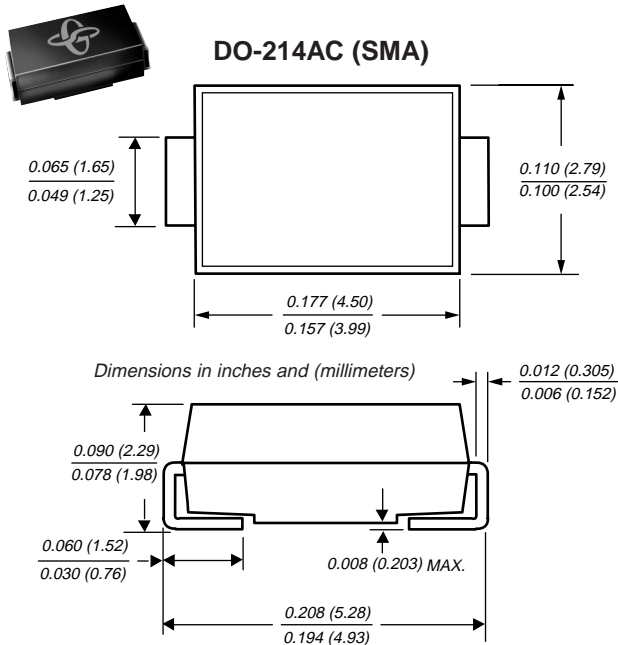


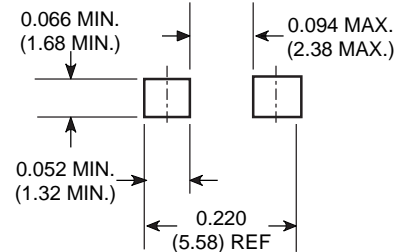
Surface Mount Ultrafast Rectifier

Reverse Voltage 50 to 600 V

Forward Current 1.0 A



Mounting Pad Layout DO-214AC



Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- For surface mount applications
- Glass passivated chip junctions
- Low profile package
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- Built-in strain relief, ideal for automated placement
- High temperature soldering guaranteed: 250°C/10 seconds on terminals

Mechanical Data

Case: JEDEC DO-214AC molded plastic body over passivated chip

Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Weight: 0.002 ounce, 0.064 gram

Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	US1A	US1B	US1D	US1G	US1J	Unit	
Device Marking Code		UA	UB	UD	UG	UJ		
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	V	
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	V	
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	V	
Maximum average forward rectified current at $T_L=110^\circ\text{C}$	$I_{F(AV)}$	1.0						A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30						A
Maximum thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	75 27						°C/W
Operating and storage temperature range	T_J, T_{STG}	-55 to +150						°C

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

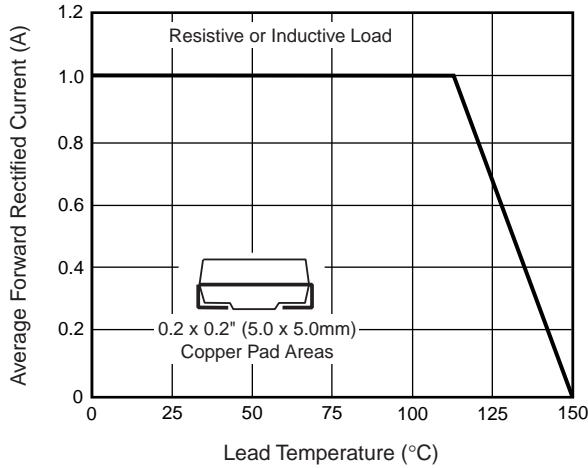
Parameter	Symbol	US1A	US1B	US1D	US1G	US1J	Unit	
Maximum instantaneous forward voltage at 1.0A	V_F	1.0				1.7		V
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_A = 100^\circ\text{C}$	I_R	10 50						μA
Maximum reverse recovery time at $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$	t_{rr}	50				75		ns
Typical junction capacitance at 4.0V, 1MHz	C_J	17				15		pF

Notes: (1) P.C.B. mounted on 0.2 x 0.2" (5.0 x 5.0mm) copper pad area

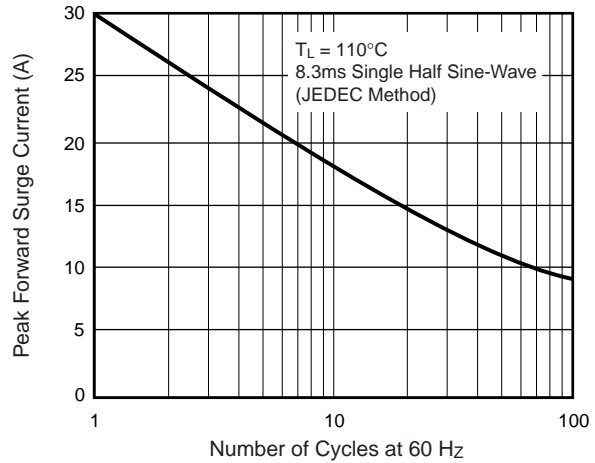
Surface Mount Ultrafast Rectifier

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

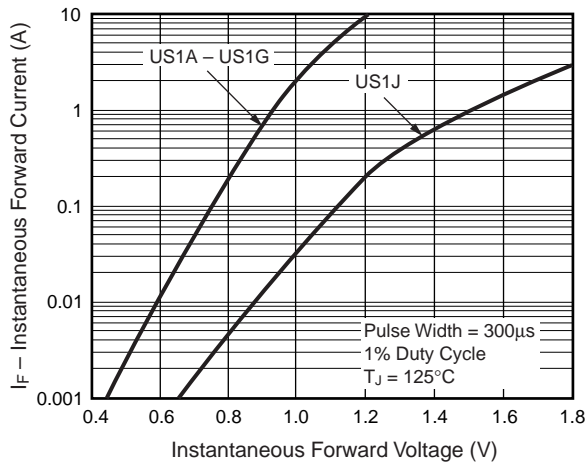
Forward Current Derating Curve



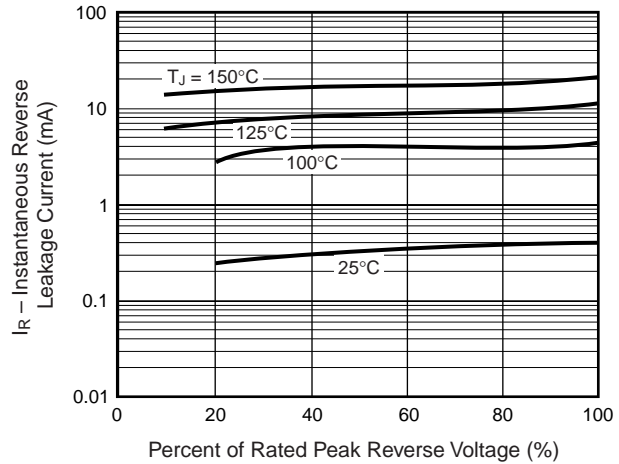
Maximum Non-Repetitive Peak Forward Surge Current



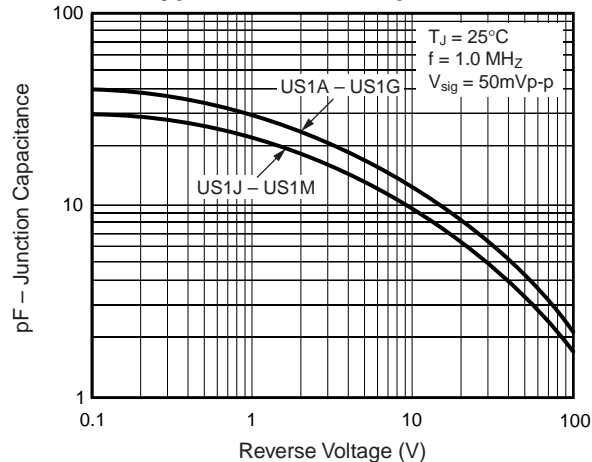
Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



Typical Transient Thermal Impedance

