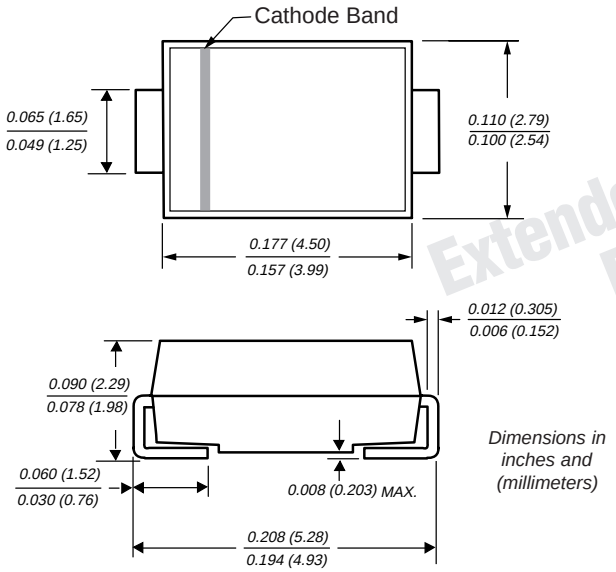
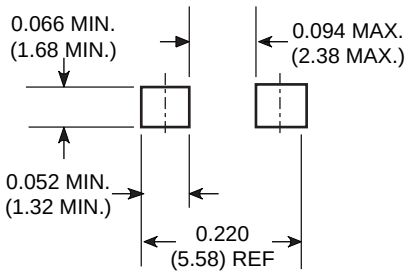
Surface Mount Ultrafast Rectifiers

DO-214AC (SMA)

Reverse Voltage 50 to 1000V
Forward Current 1.0A



Mounting Pad Layout



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

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

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	US1A	US1B	US1D	US1G	US1J	US1K	US1M	Units
Device Marking Code		UA	UB	UD	UG	UJ	UK	UM	
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 = 110°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

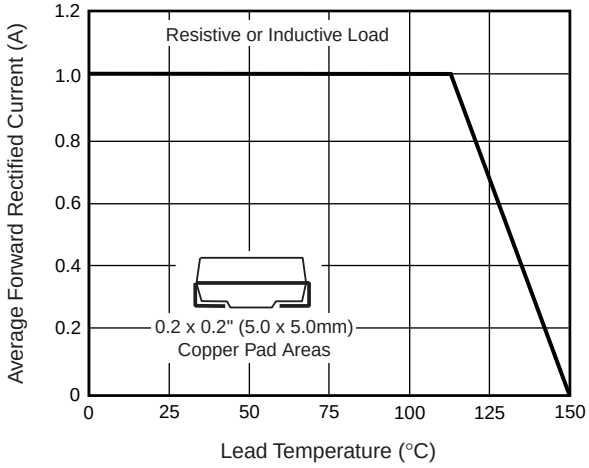
Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 1.0A		V_F	1.0	1.7	V
Maximum DC reverse current at rated DC blocking voltage	T_A = 25°C T_A =100°C	I_R	10 50		µA
Maximum reverse recovery time at I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A		t_{rr}	50	75	ns
Typical junction capacitance at 4.0V, 1MHz		C_J	15	10	pF

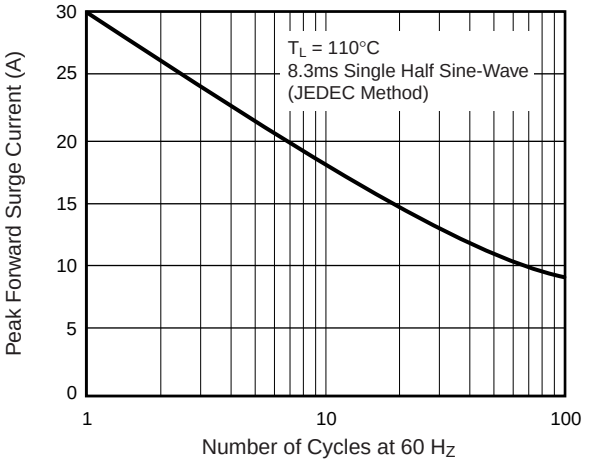
Notes: (1) P.C.B. mounted on 0.2 x 0.2" (5.0 x 5.0mm) copper pad area

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

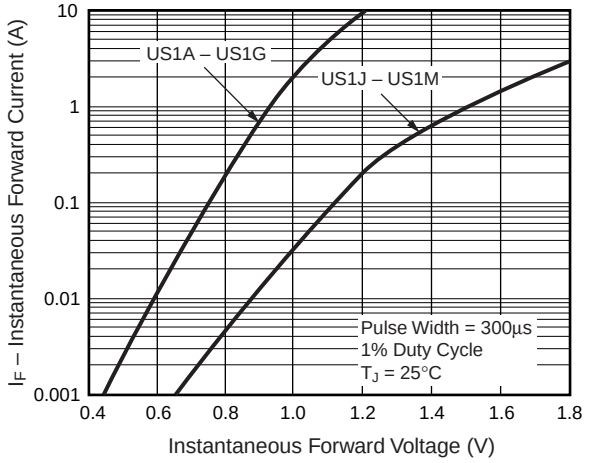
Forward Current Derating Curve



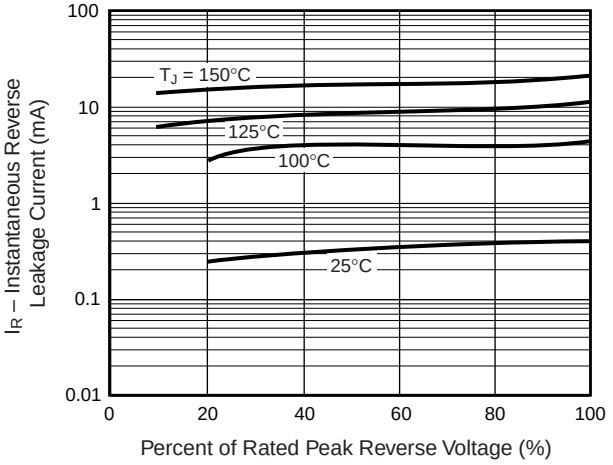
Maximum Non-Repetitive Peak Forward Surge Current



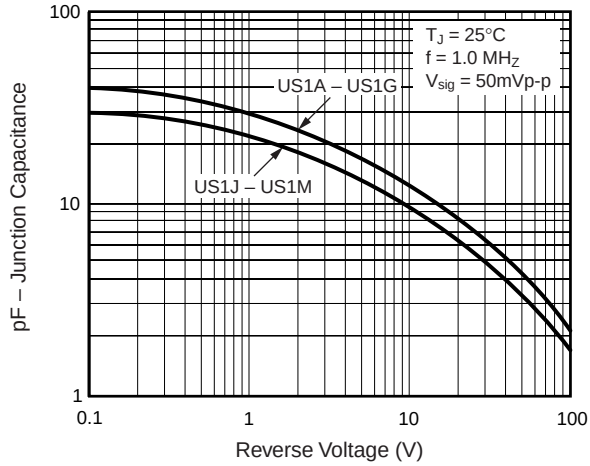
Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



Typical Transient Thermal Impedance