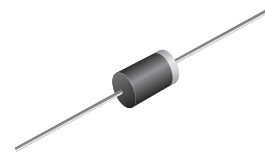




Soft Recovery Ultrafast Plastic Rectifier

Major Ratings and Characteristics

$I_{F(AV)}$	3.0 A
V_{RRM}	50 V to 1000 V
I_{FSM}	150 A
t_{rr}	50 ns, 75 ns
V_F	1.0 V, 1.7 V
$T_j \text{ max.}$	150 °C



DO-201AD

Features

- Glass passivated chip junction
- Ultrafast reverse recovery time
- Low forward voltage drop
- Low switching losses, high efficiency
- High forward surge capability
- Solder Dip 260 °C, 40 seconds



Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and Telecommunication

Mechanical Data

Case: DO-201AD

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for commercial grade

Polarity: Color band denotes cathode end

Maximum Ratings

$T_A = 25\text{ °C}$ unless otherwise specified

Parameter	Symbols	UF	UF	UF	UF	UF	UF	UF	UF	UF	Units
		5400	5401	5402	5403	5404	5405	5406	5407	5408	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	500	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	350	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	500	600	800	1000	V
Maximum average forward rectified current, 0.375" (9.5 mm) lead length at $T_A = 55\text{ °C}$	$I_{F(AV)}$	3.0									A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	150									A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150									°C

Electrical Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Test condition	Symbols	UF	UF	UF	UF	UF	UF	UF	UF	UF	Units	
			5400	5401	5402	5403	5404	5405	5406	5407	5408		
Maximum instantaneous forward voltage	at 3.0 A ⁽¹⁾	V_F	1.0					1.7					V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25\text{ }^\circ\text{C}$	I_R	10									μA	
	$T_A = 100\text{ }^\circ\text{C}$		75					200					
Maximum reverse recovery time	at $I_F = 0.5\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$ $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}	50					75					ns
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	45					36					pF

Notes:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

Thermal Characteristics

$T_A = 25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbols	UF	UF	UF	UF	UF	UF	UF	UF	UF	UF	Units
		5400	5401	5402	5403	5404	5405	5406	5407	5408		
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	20									$^\circ\text{C/W}$	
	$R_{\theta JL}$	8.5										

Notes:

(1) Thermal resistance from junction to lead and from junction to ambient with 0.375" (9.5 mm) lead length, both leads attached to heatsink

Ratings and Characteristics Curves

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

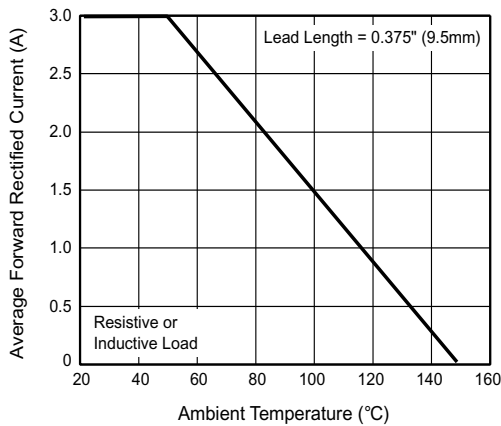


Figure 1. Maximum Forward Current Derating Curve

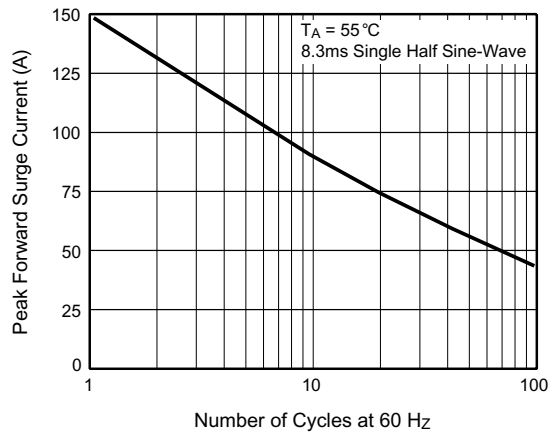


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

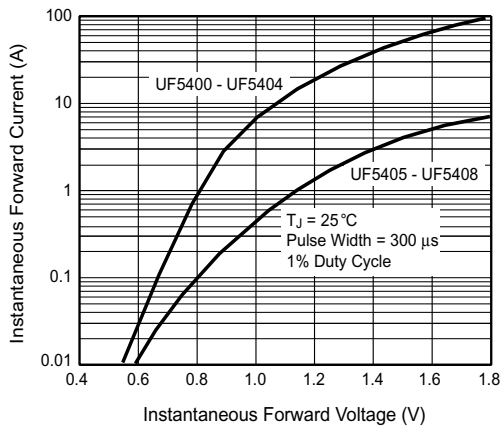


Figure 3. Typical Instantaneous Forward Characteristics

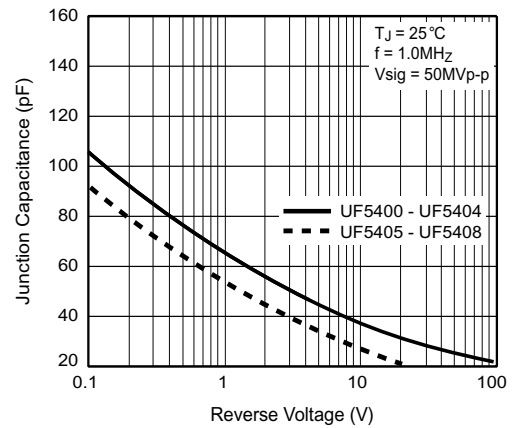


Figure 5. Typical Junction Capacitance

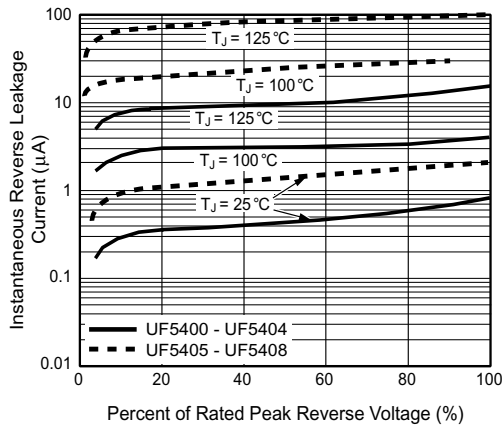
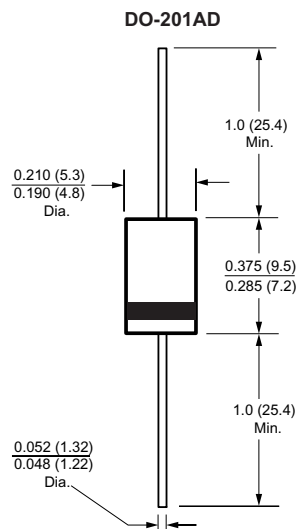


Figure 4. Typical Reverse Leakage Characteristics

Package outline dimensions in inches (millimeters)





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