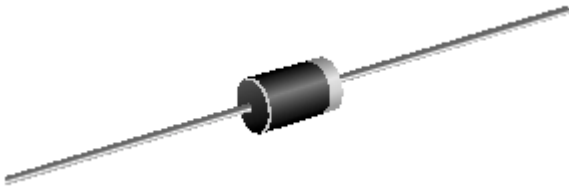


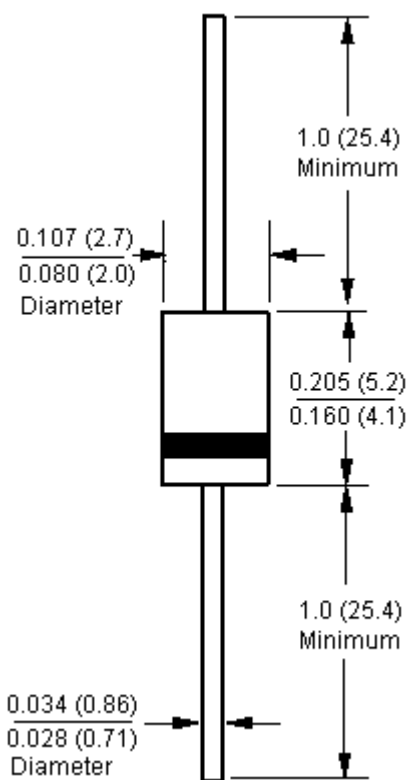
Ultrafast Plastic Rectifier



Features:

- Plastic package.
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes.
- Ultrafast recovery time for high efficiency.
- Excellent high temperature switching.
- Soft recovery characteristics.
- Glass passivated junction.
- High temperature soldering guaranteed:
250°C/10 seconds, 0.375 inch (9.5mm) lead length,
5lbs. (2.3kg) tension.

DO-204AL (DO-41)



Dimensions : Inches (Millimetres)

Mechanical Data:

Case	: JEDEC DO-204AL moulded plastic body over passivated chip.
Terminals	: Axial leads, solderable per MIL-STD-750, Method 2026.
Polarity	: Colour band denotes cathode end.
Mounting position	: Any.
Weight	: 0.012 oz., 0.34 grams.

Maximum Ratings and Thermal Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	UG1D	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	200	V
Maximum RMS Voltage	V_{RMS}	140	
Maximum DC Blocking Voltage	V_{DC}	200	
Maximum Average Forward Rectified Current at 0.375 inch (9.5mm) Lead Length at $T_L = 75^\circ\text{C}$	$I_F (AV)$	1.0	A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method) at $T_L = 75^\circ\text{C}$	I_{FSM}	40	
Typical Thermal Resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	60 20	$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150°C	$^\circ\text{C}$

Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Units
Maximum Instantaneous Forward Voltage at 1.0A (NOTE 2)	V_F	0.95	V
Maximum DC Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100^\circ\text{C}$	I_R	5.0 200	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}	15	ns
Maximum Reverse Recovery Time at $T_J = 25^\circ\text{C}$ $I_F = 1.0\text{A}$, $V_R = 30\text{V}$, $di/dt = 50\text{A}/\mu\text{s}$, $I_{rr} = 10\% I_{RM}$ $T_J = 100^\circ\text{C}$		25 35	
Maximum Recovered Stored Charge $T_J = 25^\circ\text{C}$ $I_F = 1.0\text{A}$, $V_R = 30\text{V}$, $di/dt = 50\text{A}/\mu\text{s}$, $I_{rr} = 10\% I_{RM}$ $T_J = 100^\circ\text{C}$	Q_{rr}	8.0 12	nC
Typical Junction Capacitance at 4V, 1MHz	C_J	7.0	pF

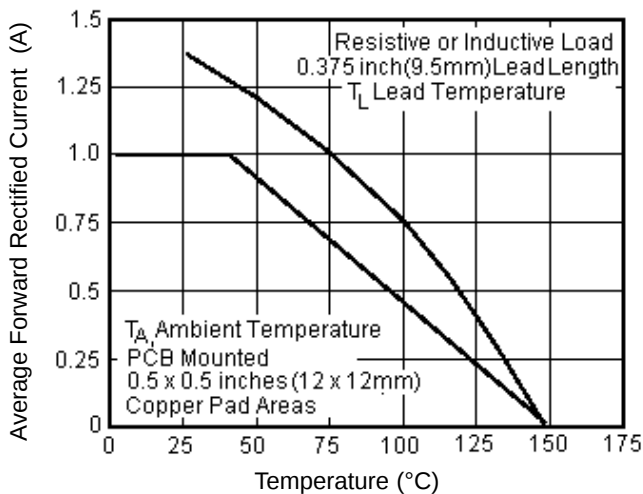
Notes:

(1) t_{rr} and Q_{rr} measured at tester: $I_F = 4.0\text{A}$, $V_R = 30\text{V}$, $di/dt = 50\text{A}/\mu\text{s}$, $I_{rr} = 10\% I_{RM}$ for measurement of t_{rr} .

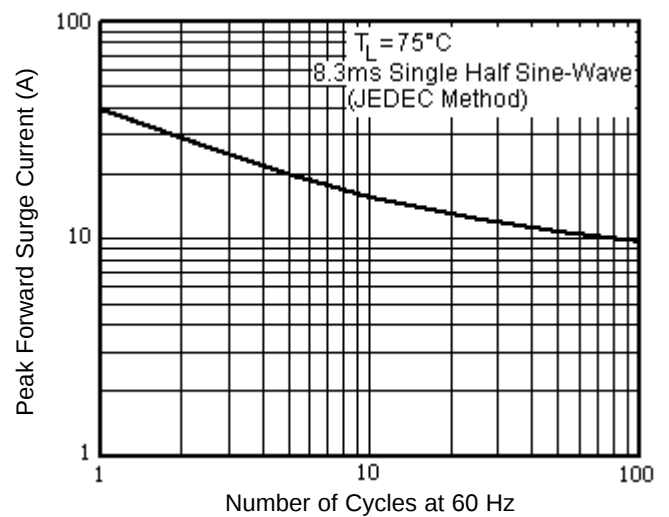
(2) Thermal resistance from junction to ambient at 0.375 inch (9.5mm) lead length.

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

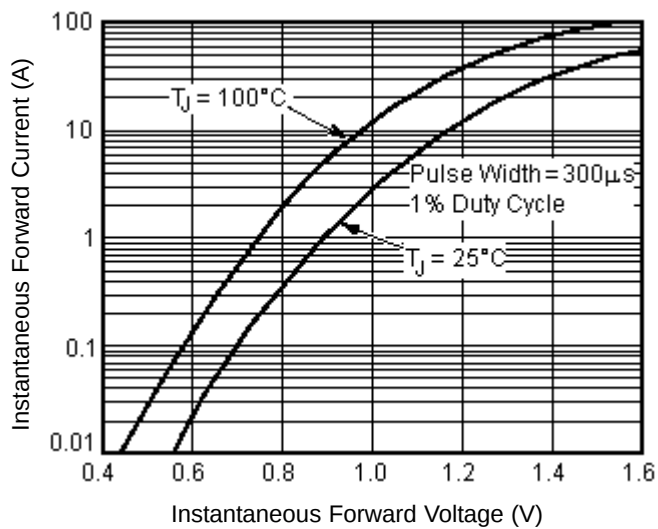
Forward Current Derating Curves



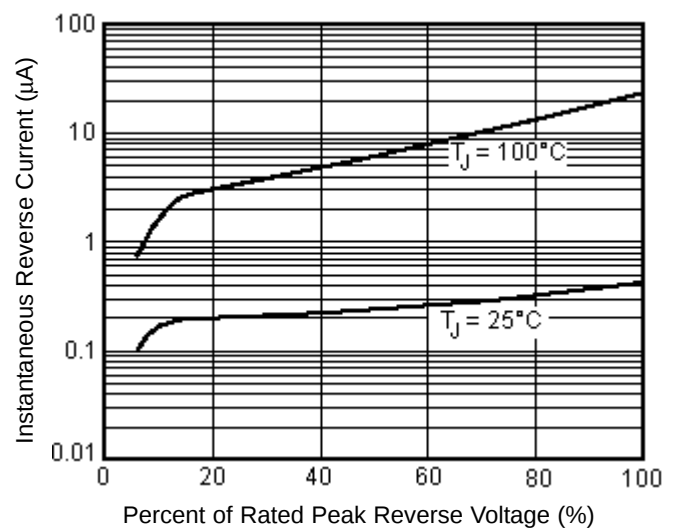
Maximum Non-Repetitive Peak Forward Surge Current



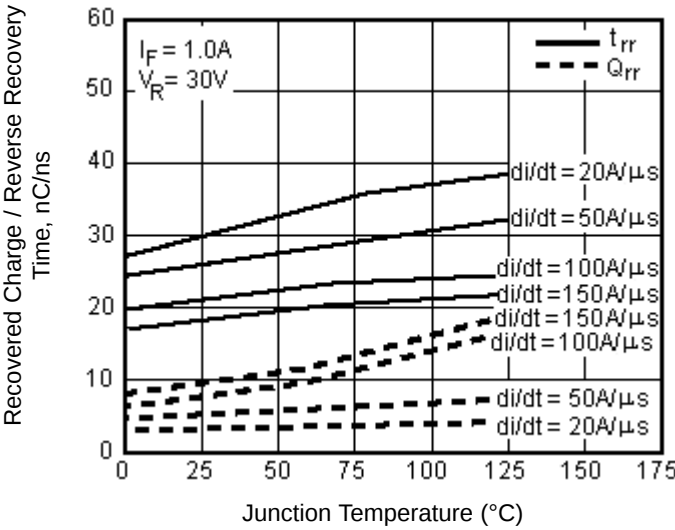
Typical Instantaneous Forward Characteristics



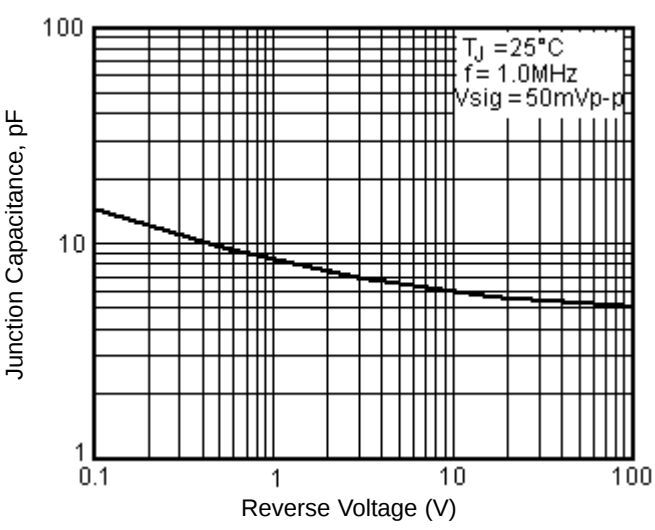
Typical Reverse Characteristics



Reverse Switching Characteristics



Typical Junction Capacitance



Part Number Table

Description	Part Number
Diode, Ultra-fast, 1A, 200V	UG1D

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