

Soft Recovery Rectifier



Features:

- High surge current capability
- Void-free plastic package
- 2 Ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Fast switching for high efficiency
- Exceeds environmental standards of MIL-S-19500/228

Mechanical Data:

Case	: Moulded plastic DO-201AD
Terminals	: Axial leads, solderable per MIL-STD-202, Method 208
Polarity	: Band denotes Cathode end
Mounting position	: Any
Weight	: 0.04oz, 1.1g

Max. Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Parameter	Symbols	BY299	Units
Max. recurrent peak reverse voltage	V_{RRM}	800	V
Max. RMS voltage	V_{RMS}	560	
Max. DC blocking voltage	V_{DC}	800	
Max. average forward rectified current 0.375" (9.5mm) lead length at $T_A = 55^\circ\text{C}$	$I_{(AV)}$	2	A
Peak forward surge current 10ms single half sine-wave superimposed on rated load	I_{FSM}	70	
Max. repetitive peak forward surge (Note 1)	I_{FRM}	10	
Max. instantaneous forward voltage at 3A	V_F	1.3	V
Max. DC reverse current at rated DC blocking voltage	I_R	10 500	μA
Max. reverse recovery time (Note 3) $T_J = 25^\circ\text{C}$	T_{RR}	150	ns
Typical junction capacitance (Note 2) $T_J = 25^\circ\text{C}$	C_J	28	pF
Typical thermal resistance (Note 4)	$R_{\theta JA}$	15	$^\circ\text{C}/\text{W}$
Operating temperature range	T_J	-50 to +125	$^\circ\text{C}$
Storage temperature range	T_{STG}	-50 to +150	

Notes:

1. Repetitive peak forward surge current at $f < 15\text{kHz}$.
2. Measured at 1MHz and applied reverse voltage of 4V.
3. Reverse recovery test conditions: $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = 0.25\text{A}$.
4. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length with both leads to heat sink.

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Rating and Characteristics Curves

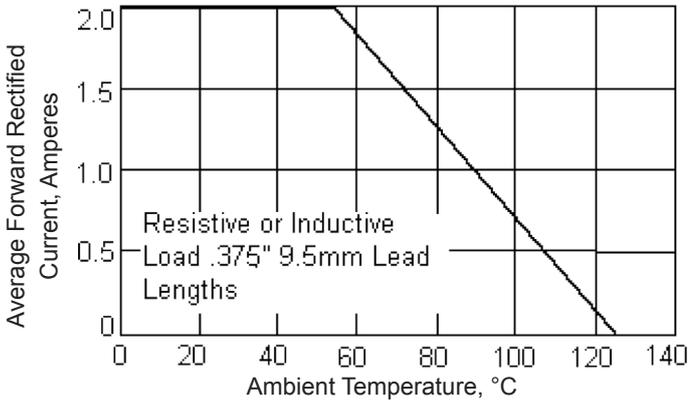


Figure 1 - Forward Current Derating Curve

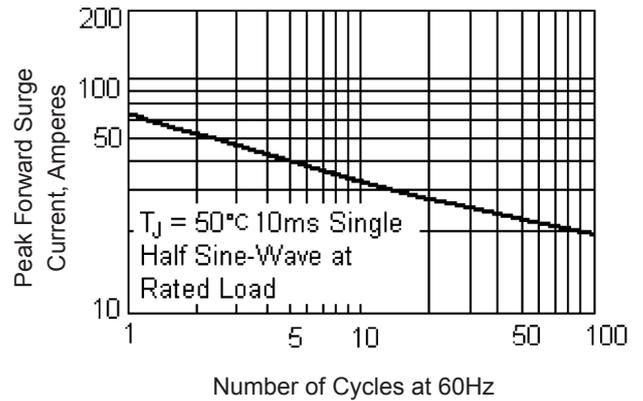
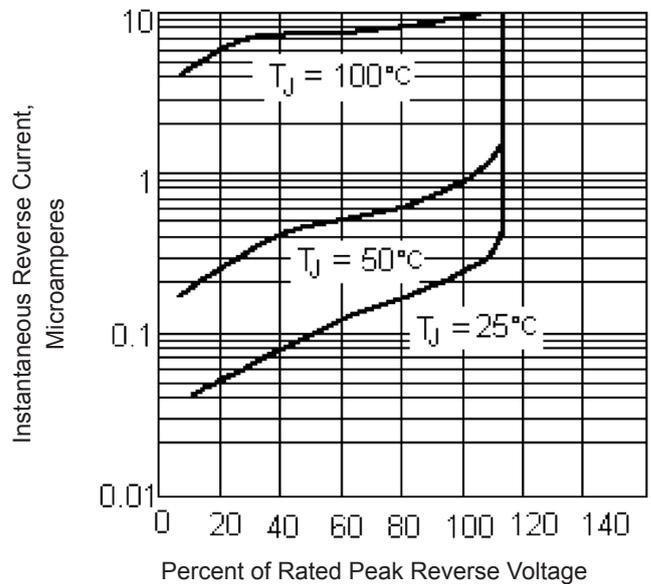
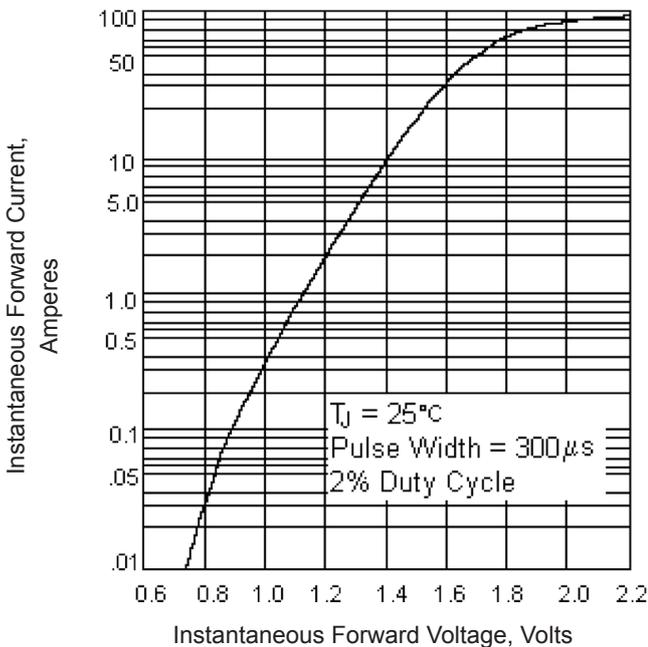
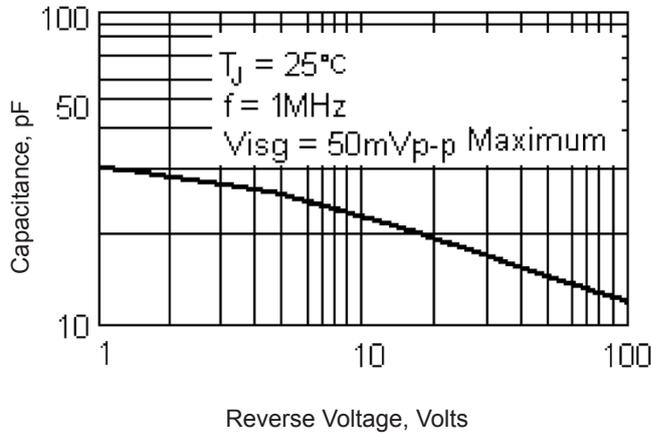


Figure 2 - Maximum Non-Repetitive Peak Forward Surge Current

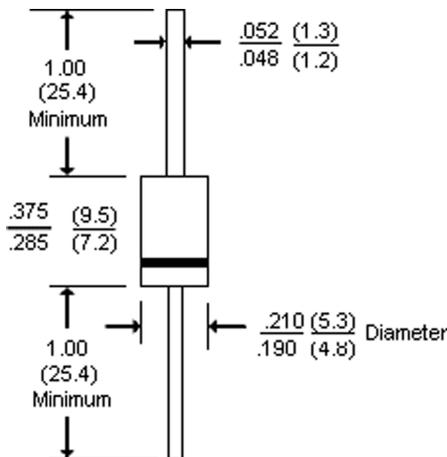


Soft Recovery Rectifier



Dimensions

DO-201AD



Dimensions : Millimetres

Part Number Table

Description	Part Number
Diode, Fast, 2A, 800V	BY299

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