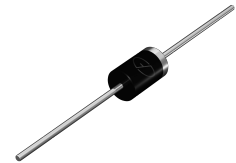


**Features**

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- High Temperature Soldering Guaranteed: 260°C/10 seconds



Package: DO-201AD

**Applications**

- Switching power supplies
- Converters
- Reverse battery protections
- High surge current capability
- Free-wheeling



**Maximum Ratings and Electrical Characteristics** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	SD945	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	45	V
Maximum RMS Voltage	$V_{RMS}$	31.5	V
Maximum DC Blocking Voltage	$V_{DC}$	45	V
Maximum Average Forward Rectified Current 0.375 <sup>U</sup> (9.5mm) Lead Length	$I_{F(AV)}$	9	A
Peak Forward Surge Current (8.3ms single half sine-wave superimposed on rated load) (JEDEC method at rated $T_L$ )	$I_{FSM}$	150.0	A
Maximum Instantaneous Forward Voltage at 9 A DC	$V_F$	0.63	V
Maximum Instantaneous Reverse Current at rated DC Blocking Voltage	$I_R$	$T_A=25^\circ\text{C}$	0.5
		$T_A=100^\circ\text{C}$	50
Typical Junction Capacitance(Note 2)	$C_J$	400	pF
Typical Thermal Resistance(Note 1)	$R_{\theta JC}$	3	$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

Note: 1. Thermal resistance from Junction to Case.

2. Measure at 1MHz and reverse voltage of 4.0V

**Ratings and Characteristics Curves**

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

FIG. 1-FORWARD CURRENT DERATING CURVE

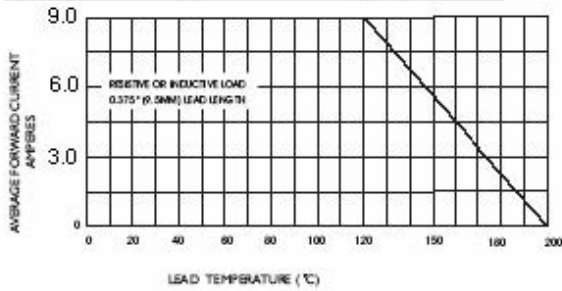


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

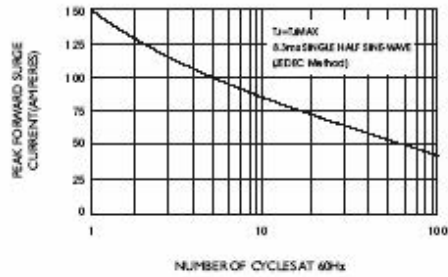


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

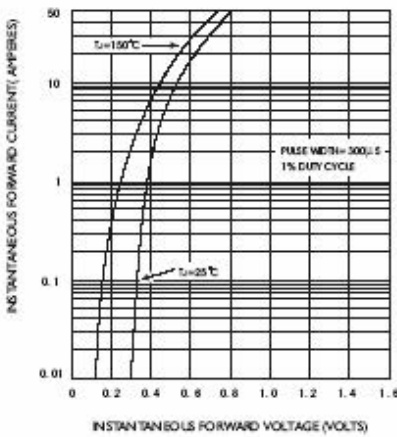


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

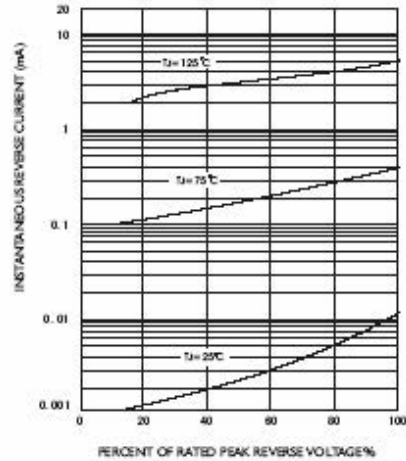


FIG. 5-TYPICAL JUNCTION CAPACITANCE

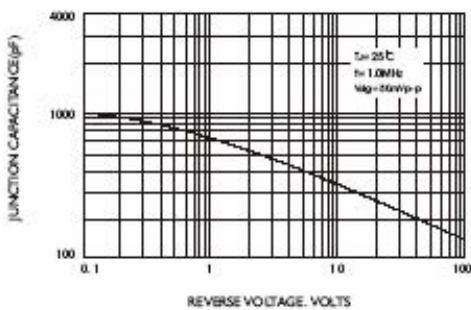
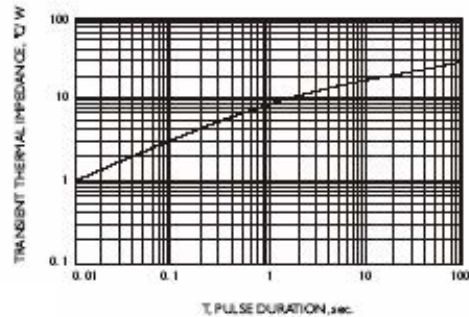


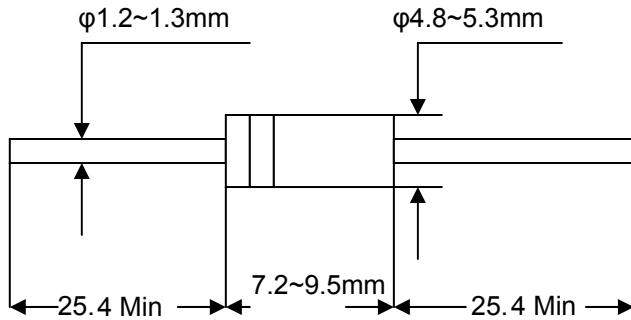
FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



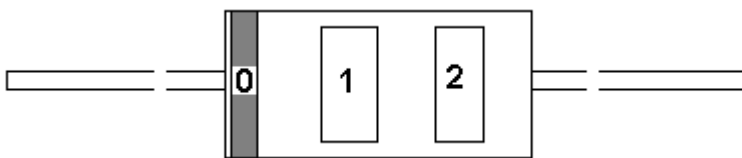
**Package Outline Dimensions**

in inches (millimeters)

**DO-201AD**



**Marking**

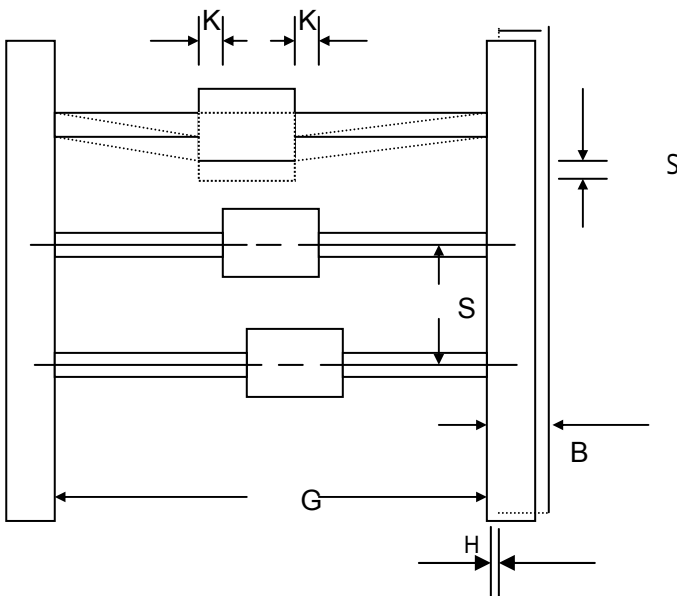


0. Cathode Mark (silver band)

1. Part Name SD945

2. Logo Mark 

**Taping Specification**



- K: 0.5mm MAX
- S: 10.0 ± 0.5mm
- S: 1.0mm MAX
- B: 6.0 ± 1.0mm
- G: 52.4 ± 1.5mm
- H: 0.8mm MAX