



14830 Valley View Avenue
La Mirada, California 90638
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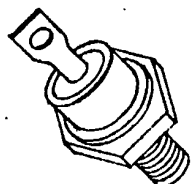
SDR900 THRU SDR905

30 AMPS

ULTRA FAST RECOVERY RECTIFIER

50-500 VOLTS

CASE STYLE J (DO-5)



FEATURES

- ULTRA FAST RECOVERY 50 NSEC MAX
- PIV TO 500 VOLTS
- LOW REVERSE LEAKAGE
- HERMETICALLY SEALED
- SINGLE CHIP CONSTRUCTION
- LOW FORWARD VOLTAGE DROP 650 MV AVERAGE
- HIGH SURGE CURRENT 350 AMPS
- AVAILABLE IN MODIFIED TO-61
ISOLATED PACKAGE BY SPECIAL REQUEST

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage and DC Blocking Voltage	V_{RM} (rep) V_R	50 100 200 300 400 500	Volts
RMS Reverse Voltage	V_r	35 70 140 210 280 350	Volts
Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60Hz, Sine Wave, $T_C = 55^\circ\text{C}$)	I_0	30	Amps
Peak Repetitive Forward Current ($T_C = 55^\circ\text{C}$, 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses)	I_{FM} (rep)	120	Amps
Peak Surge Current ($T_C = 55^\circ\text{C}$, Superimposed on Rated Current at Rated Voltage, 8.3 ms Pulse)	I_{FM} (surge)	350	Amps
Operating and Storage Temperature	T_J, T_{stg}	-65 to +200	$^\circ\text{C}$

THERMAL CHARACTERISTICS

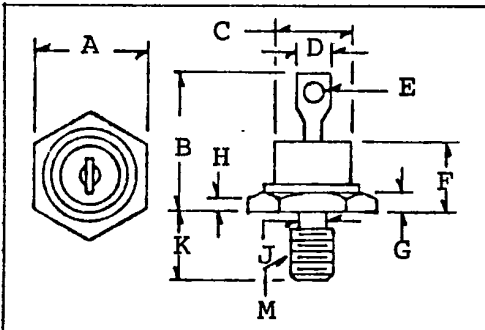
Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.0	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Max Full Cycle Forward Voltage Drop, Averaged Over Full Cycle (I_O (Max), 60 Hz. Sine Wave, $T_C = 55^\circ\text{C}$)	$V_{F(AV)}$.65	Vdc
Max Instantaneous Forward Drop ($I_F = 30$ Adc, $T_C = 25^\circ\text{C}$, 300 μs Pulse)	V_F	1.7	Vdc
Max Full Cycle Reverse Leakage Current, Averaged Over Full Cycle (Rated V_R , 60Hz. Sine Wave, $T_C = 100^\circ\text{C}$)	$I_{R(AV)}$	5.0	mA
Max Reverse Leakage Current (Rated V_R , $T_C = 25^\circ\text{C}$)	I_R	.05	mA
Max Junction Capacitance ($V_R = 10$ V, $T_C = 25^\circ\text{C}$)	C_J	250	pf

REVERSE RECOVERY CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time ($I_F = 500\text{ma}$, $I_R = 1\text{A}$, $I_{RR} = 250\text{ma}$)	t_{rr}	---	45	50	ns

PHYSICAL DIMENSIONS**KEY TO DIMENSIONS:**

. (Inches)

- A = .667 - .687
- B = 1.000 MAX.
- C = .667 MAX.
- D = .375 MAX.
- E = .140 - .175
- F = .480 MAX.
- G = .115 - .200
- H = .060 MIN.
- J = .220 - .249
- K = .422 - .453
- M = $\frac{1}{4}$ -28 UNF-2A

SSDI SOLID STATE DEVICES, INC.

SDR932/61 THRU SDR935/61 30 AMP

ULTRA FAST RECOVERY RECTIFIER

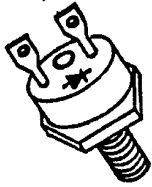
200 — 500 VOLTS



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CASE STYLE T

2 PIN TO-61



FEATURES

- ISOLATED PACKAGE
- ULTRA FAST RECOVERY 35 nsec MAX
- REVERSE VOLTAGE TO 500 VOLTS
- LOW REVERSE LEAKAGE
- HERMETICALLY SEALED
- SINGLE CHIP CONSTRUCTION
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH, ULTRASONIC ALUMINUM WIRE BONDS

MAXIMUM RATINGS

Rating		Symbol	Value	Unit
Peak Repetitive Reverse Voltage and DC Blocking Voltage (IR = 100uA)	SDR932/61	V_{RM} (rep)	200	Volts
	SDR933/61	V_R	300	
	SDR934/61		400	
	SDR935/61		500	
RMS Reverse Voltage	SDR932/61	V_r	140	Volts
	SDR933/61		210	
	SDR934/61		280	
	SDR935/61		350	
Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60Hz, Sine Wave, $T_C = 55^\circ C$)		I_0	30	Amps
Peak Repetitive Forward Current ($T_C = 55^\circ C$, 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses)		I_{FM} (rep)	120	Amps
Peak Surge Current ($T_C = 55^\circ C$, Superimposed on Rated Current at Rated Voltage, 8.3 ms Pulse)		I_{FM} (surge)	350	Amps
Operating and Storage Temperature		T_J, T_{stg}	-65 to +200	°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.5	°C/W

NOTE: All specifications subject to change without notice.

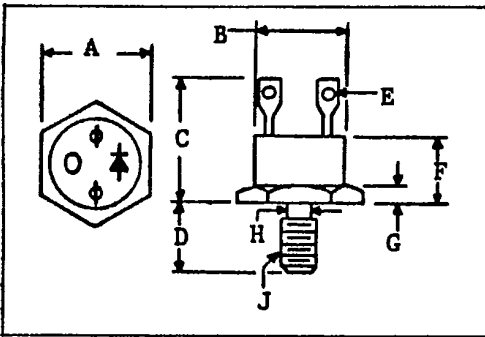
ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Max Full Cycle Forward Voltage Drop, Averaged Over Full Cycle. (I_O (Max), 60 Hz Square Wave, $T_C = 55^\circ\text{C}$)	$V_{F(AV)}$	0.85	Vdc
Max Instantaneous Forward Drop ($I_F = 30$ Adc, $T_C = 25^\circ\text{C}$, 300 μs Pulse)	V_F	1.7	Vdc
Max Reverse Leakage Current ($T_C = 100^\circ\text{C}$)	$I_{R(AV)}$	5.0	mAdc
Max Reverse Leakage Current (Rated V_R , $T_C = 25^\circ\text{C}$)	I_R	50	μAdc
Max Junction Capacitance ($V_R = 10$ V, $T_C = 25^\circ\text{C}$)	C_J	250	pf

REVERSE RECOVERY CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time ($I_F = 500\text{ma}$, $I_R = 1\text{A}$, $I_{RR} = 250\text{ma}$) ($I_F = 1.0$ Amp to $V_R = 30$ Vdc.)	t_{rr}	--	30	35	ns

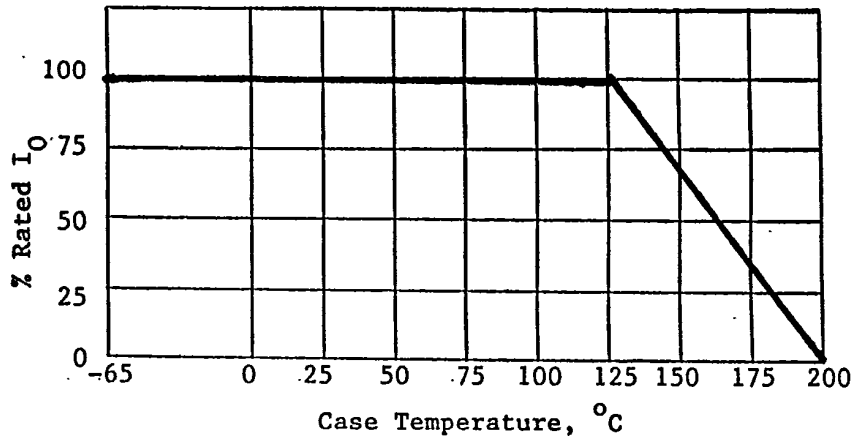
PHYSICAL DIMENSIONS



KEY TO DIMENSIONS:

- (Inches)
- A = .667 - .687
 - B = .570 - .610
 - C = .640 - .875
 - D = .422 - .455
 - E = .047 - .072 (Diameter)
 - F = .325 - .460
 - G = .090 - .150
 - H = .220 - .249 (Diameter)
 - J = $\frac{1}{4}$ - 28 UNF-2A

TYPICAL OPERATING CURVES



SDR943/61 THRU SDR946/61

40 AMP

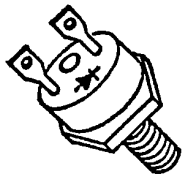
ULTRA FAST RECOVERY RECTIFIER

300-600 VOLTS



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CASE STYLE T
2 PIN TO-61



FEATURES

- ISOLATED PACKAGE
- ULTRA FAST RECOVERY 80 NSEC MAX
- REVERSE VOLTAGE TO 600 VOLTS
- LOW REVERSE LEAKAGE
- HERMETICALLY SEALED
- SINGLE CHIP CONSTRUCTION
- 200°C OPERATING, GOLD EUTECTIC DIE ATTACH, ULTRASONIC ALUMINUM WIRE BONDS
- MILITARY GRADE REPLACEMENT FOR COMMERCIAL DO-5

MAXIMUM RATINGS

Rating		Symbol	Value	Unit
Peak Repetitive Reverse Voltage and DC Blocking Voltage (IR = 100uA)	SDR943/61 SDR944/61 SDR945/61 SDR946/61	$V_{RM (rep)}$ V_R	300 400 500 600	Volts
RMS Reverse Voltage	SDR943/61 SDR944/61 SDR945/61 SDR946/61	V_r	210 280 350 420	Volts
Half Wave Rectified Forward Current, Averaged Over Full Cycle (Resistive Load, 60Hz, Sine Wave, $T_C = 55^\circ C$)		I_0	40	Amps
Peak Repetitive Forward Current ($T_C = 55^\circ C$, 8.3 ms Pulse, Allow Junction to Reach Equilibrium Between Pulses)		$I_{FM (rep)}$	150	Amps
Peak Surge Current ($T_C = 55^\circ C$, Superimposed on Rated Current at Rated Voltage, 8.3 ms Pulse)		$I_{FM (surge)}$	375	Amps
Operating and Storage Temperature		T_J, T_{stg}	-65 to 200	°C

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.0	°C/W

ELECTRICAL CHARACTERISTICS

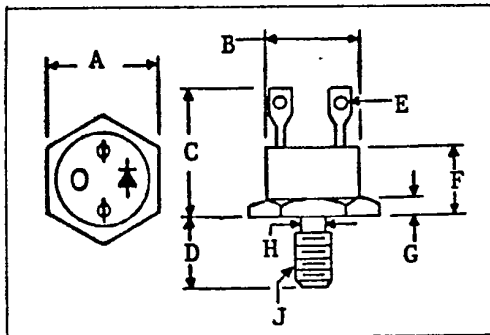
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Characteristics	Symbol	Value	Unit
Max Full Cycle Forward Voltage Drop, Averaged Over Full Cycle. (I_O (Max), 60 Hz Square Wave, $T_C = 55^\circ\text{C}$)	$V_{F(AV)}$	0.85	Vdc
Max Instantaneous Forward Drop ($I_F = 40$ Adc, $T_C = 25^\circ\text{C}$, 300 μs Pulse)	V_F	1.7	Vdc
Max Reverse Leakage Current $T_C = 100^\circ\text{C}$	$I_{R(AV)}$	5.0	mAdc
Max Reverse Leakage Current ($T_C = 25^\circ\text{C}$)	I_R	50	μAdc
Max Junction Capacitance ($V_R = 10$ V, $T_C = 25^\circ\text{C}$)	C_J	350	pf

REVERSE RECOVERY CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time ($I_F = 500\text{ma}$, $I_R = 1\text{A}$, $I_{RR} = 250\text{ma}$)	t_{rr}	-	60	80	ns

PHYSICAL DIMENSIONS



KEY TO DIMENSIONS:

(Inches)

- A = .667 - .687
- B = .570 - .610
- C = .640 - .875
- D = .422 - .455
- E = .047 - .072 (Diameter)
- F = .325 - .460
- G = .090 - .150
- H = .220 - .249 (Diameter)
- J = $\frac{1}{4}$ - 28 UNF-2A

TYPICAL OPERATING CURVES

