

# POWER SCHOTTKY RECTIFIERS

## HERMETIC PACKAGE

- High Power Metallic Axial
- D0-4, D0-5, T0-3

### 15A, Up to 40V 1N5823 1N5824 1N5825 Axil Metallic Top Hat

ELECTRICAL CHARACTERISTIC (Tc = 25°C unless noted)\*

CHARACTERISTIC	SYMBOL	1N5823	1N5824	1N5825	UNITS	CONDITIONS
Maximum Instantaneous	VF	0.330	0.340	0.350	V	IF = 3.0A
Forward Voltage (Note 2)		0.360	0.370	0.380	V	IF = 5.0A
		0.470	0.490	0.520	V	IF = 15.7A
Maximum Instantaneous Reverse Current @ Rated DC Voltage (Note 2)	IR	10	10	10	mA	Tc = 25°C
		100	100	100	mA	Tc = 100°C

### 30Amp, Up to 45V SD41 30FQ40 30FQ45 D0-4

ELECTRICAL CHARACTERISTIC (Ti = 25°C unless noted)\*

CHARACTERISTIC	SYMBOL	SD41	30FQ40	30FQ45	UNITS	CONDITIONS
Maximum Instantaneous		0.580	0.640	0.640	V	IF = 30A
Forward Voltage (Note 2)	VF	0.750	0.750	0.750	V	IF = 60A
Maximum Instantaneous Reverse Current @ Rated DC Voltage (Note 2)	IR	50	4.0	4.0	mA	Tj = 25°C
		125	35.0	35.0	mA	Tj = 125°C

### 120 Amp Pik, 45V SD51 DO-5

ELECTRICAL CHARACTERISTIC (Tcase = 25°C)

CHARACTERISTIC	SYMBOL	LIMIT	UNITS	CONDITIONS
Maximum Instantaneous	IR	50	mA	Tc = 25° C, VR = 35V
Reverse Current		200	mA	Tc = 125° C
				Pulse Width = 400uS
				Duty Cycle = 1 percent
Maximum Instantaneous Forward Voltage	VF	0.60	V	IF = 60A
				Tc = 125°
				Pulse Width = 300uS
Flexible Top Lead Option	VF	0.65	V	Duty Cycle = 1 percent
Maximum Capacitance	Ct	4000	pF	VR = 5.0V
Maximum Voltage Rate of Change	dv/dt	700	V/us	VR = 35V

## DUAL POWER SCHOTTKY RECTIFIERS

### 30 Amp Pk per diode, 45V SD241 TO-3

ELECTRICAL CHARACTERISTIC (Tcase = 25°C) Per Diode

CHARACTERISTIC	SYMBOL	LIMIT	UNITS	CONDITIONS
Maximum Instantaneous	IR	25	mA	Tc = 25° C, VR = 35V
Reverse Current		100	mA	Tc = 125° C
				Pulse Width = 400uS
				Duty Cycle = 1 percent
Maximum Instantaneous Forward Voltage	VF	.47	V	IF = 10A
				Pulse Width = 300gS
				Duty Cycle = 1 percent
				Tc = 125° C
		.60	V	IF = 20A
				Pulse Width = 300uS
				Duty Cycle = 1 percent
				Tc = 125° C
Maximum Capacitance	Ct	2000	pF	VR = 5.0V
Maximum Voltage Rate of Change	dv/dt	1000	V/us	VR = 35V

# SCHOTTKY BARRIER RECTIFIERS

OPERATING AND STORAGE TEMPERATURE -65°C to +150°C

TYPE	Max Peak Reverse Voltage	Maximum Average Rectified Current @ Half-Wave Resistive Load 60 Hz	Maximum Forward Peak Surge Current @ 8.3 ms Super Imposed	Maximum Reverse Current @ PRV @ 25°C T <sub>A</sub>	Maximum Forward Voltage @ 25°C T <sub>A</sub>	
	PRV	I <sub>o</sub> @ T <sub>c</sub>	I <sub>FM</sub> (Surge)	I <sub>R</sub> @ T <sub>c</sub>	I <sub>FM</sub>	V <sub>FM</sub>
	V <sub>PK</sub>	A <sub>AV</sub> °C	A <sub>PK</sub>	MA <sub>dc</sub> °C	A <sub>PK</sub>	V <sub>PK</sub>

T<sub>L</sub> - Lead Temp. @ 3/8" From Body

## 25.0 AMPERES-SCHOTTKY/DO-4

1N5829	20	25.0	80	800	150.0	100	25.0	0.44
1N5830	30	25.0	80	800	150.0	100	25.0	0.46
1N5831	40	25.0	80	800	150.0	100	25.0	0.48
1N6095	30	25.0	70	400	250.0	105	25.0	*0.86
1N6096	40	25.0	70	400	250.0	105	25.0	*0.86

Note: 'VF TEST @ T<sub>c</sub> 70

## 40.0/50.0 AMPERES-SCHOTTKY/DO-5

1N5832	20	40.0	75	800	150.0	100	40.0	0.52
1N5833	30	40.0	75	800	150.0	100	40.0	0.55
1N5834	40	40.0	75	800	150.0	100	40.0	0.59
1N6097	30	50.0	70	800	250.0	115	50.0	*0.86
1N6098	40	50.0	70	800	250.0	115	50.0	*0.86

Note: 'VF TEST @, T<sub>c</sub> - 70°C

## 65.0 AMPERES-SCHOTTKY/DO-5

SCH6502	20	65.0	120	800	125.0	150	65.0	0.78
SCH6503	30	65.0	120	800	125.0	150	65.0	0.78
SCH6504	40	65.0	120	800	125.0	150	65.0	0.78
SCH6505	50	65.0	120	800	125.0	150	65.0	0.78

## 75.0 AMPERES-SCHOTTKY/DO-5

SCH7502	20	75.0	90	1000	150.0	125	75.0	*0.60
SCH7503	30	75.0	90	1000	150.0	125	75.0	*0.60
SCH7504	40	75.0	90	1000	150.0	125	75.0	*0.60
SCH7505	50	75.0	90	1000	150.0	125	75.0	*0.60

NOTE: 'VF TEST ft, T<sub>c</sub> = 125°C