

New Jersey Semi-Conductor Products, Inc.

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 U.S.A.

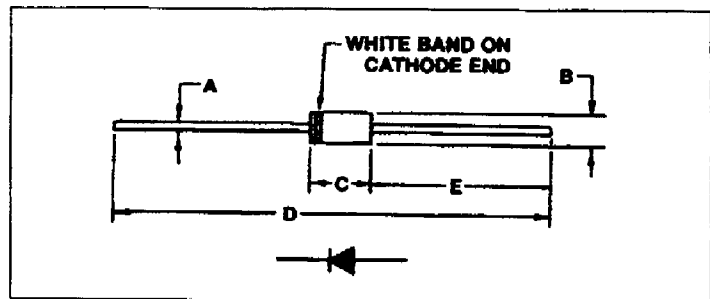
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VSK Series

5 Amp Schottky Rectifiers 150°C MAX T_J

20 Volt, 30 Volt and 40 Volt V_{RRM}
 .450 Volt V_F at I_F = 5.0 Amp
 Very Fast Switching Speed
 Minimum Sized, Low Cost Epoxy Encapsulation

LTR.	INCHES	MILLIMETERS
A	.048-.052	1,22-1,32 Dia.
B	.190-.225	4,83-5,72
C	.36-.37	9,14-9,40
D	2.8-2.8	66,0-71,1
E	1.137-1.237	28,33-31,42



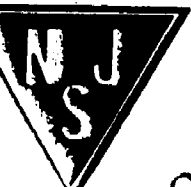
MAXIMUM RATINGS (At T_A = 25°C unless otherwise noted)

RATINGS	SYMBOL	VSK520	VSK530	VSK540	UNITS
DC Blocking Voltage	V _{RM}				
Working Peak Reverse Voltage	V _{RRM}	20	30	40	Volts
Peak Repetitive Reverse Voltage	V _{RRM}				
RMS Reverse Voltage	V _{RR(RMS)}	14	21	28	Volts
Average Rectified Forward Current (Fig. 5 & 6)	I _O		5.0		Amps
Ambient Temp. @ Rated V _{RM} , R _{ΘJA} ≤ 16° C/W	T _A	70	65	60	°C
Peak Surge Current (non-rep), 300μs Pulse Width (Fig. 4)	I _{FSM}		500		Amps
Peak Surge Current (non-rep), 1/2 cycle, 60Hz (Fig. 4)	I _{FSM}		250		Amps
Operating Junction Temperature	T _J		-65 to +150*		°C
Storage Temperature	T _{STG}		-65 to +150		°C

*V_{RM} ≤ 0.1 V_{RM} Max, R_{ΘJA} ≤ 12°C/W

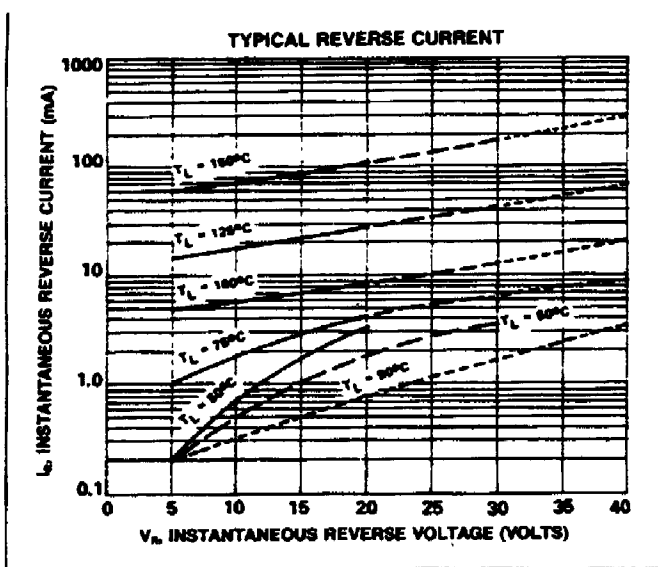
ELECTRICAL CHARACTERISTICS (At T_A = 25°C unless otherwise noted)

CHARACTERISTICS	SYMBOL	VSK520	VSK530	VSK540	UNITS
Maximum Instantaneous Forward Voltage Drop (1) See Fig. 2 for Typical v _F	V _F		.400 .450 .625		Volts
Maximum Instantaneous Reverse Current at Rated V _{RM} See Fig. 1 for Typical I _R	I _R		10 75		mA



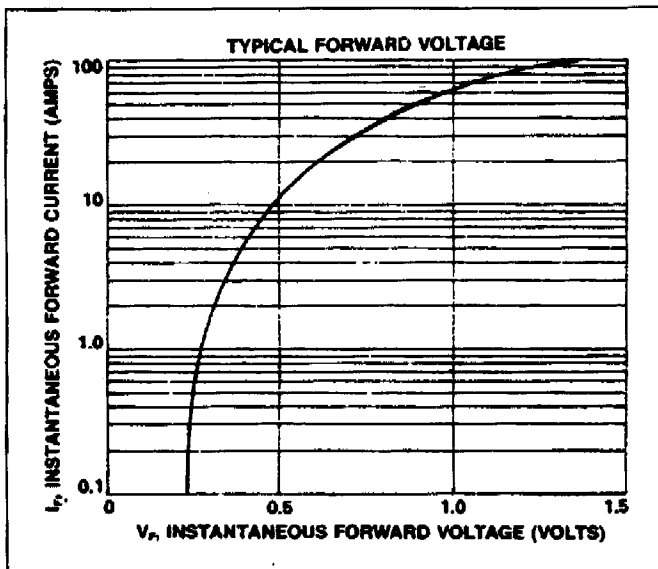
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Quality Semi-Conductors



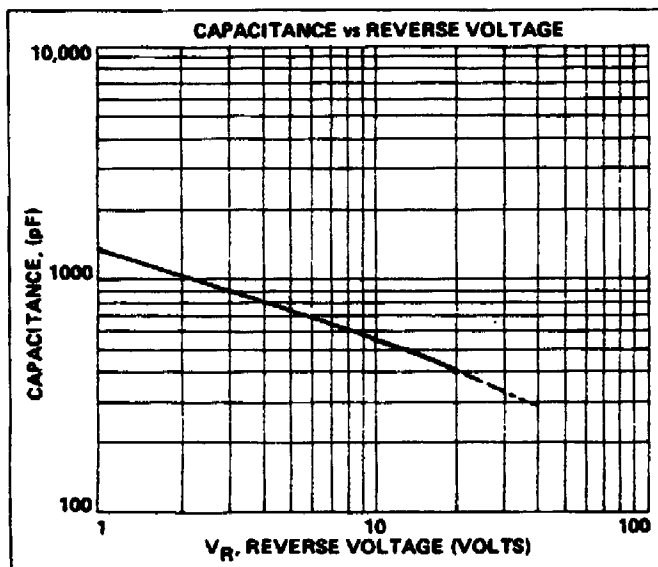
— VSK520
 - - - VSK530
 - · - VSK540
 PULSE WIDTH = 300 μ sec
 T_L = LEAD TEMP. MEASURED
 .03" FROM
 RECTIFIER BODY WITH
 40 GAUGE THERMOCOUPLE

FIGURE 1



PULSE WIDTH = 300 μ sec
 $T_A = 25^\circ\text{C}$

FIGURE 2



— VSK520
 - - - VSK530
 - · - VSK540
 $T_A = 25^\circ\text{C}$
 TEST FREQ = 100 kHz

The current flow in a Schottky barrier rectifier is due to majority carrier conduction and is not affected by reverse recovery transients due to stored charge and minority carrier injection as in conventional PN diodes.

The Schottky barrier rectifier may be considered for purposes of circuit analysis, as an ideal diode in parallel with a variable capacitance equal in value to the junction capacitance. See Figure 3.

FIGURE 3