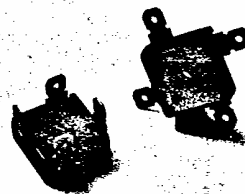


30 Amp Epoxy Bridge Rectifiers VK Series

January 1984

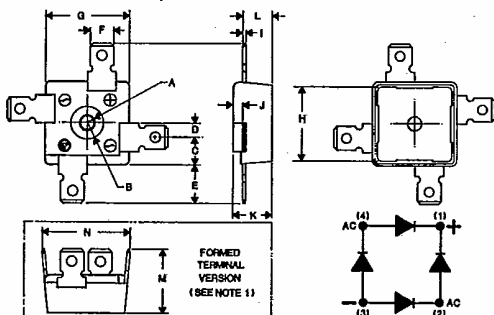
- 30 Amps DC Forward Current at $T_C = 80^\circ\text{C}$
- 300 Amps Peak One Half Cycle Surge Current
- Externally Exposed Copper Mounting Pad For Low Thermal Resistance
- 2200 Volts Minimum Circuit-to-Case Insulation



MAXIMUM RATINGS (At T _A = 25°C unless otherwise noted)	SYMBOL	CONTROLLED AVALANCHE			NON-CONTROLLED AVALANCHE						UNITS	
Series Number		VK247	VK447	VK647	VK048	VK148	VK248	VK448	VK648	VK848	VK1048	
DC Blocking Voltage, Working Peak Reverse Voltage, Peak Repetitive Reverse Voltage	V _R V _{RWM} V _{RRM}	200	400	600	50	100	200	400	600	800	1000	Volts
RMS Reverse Voltage	V _{R(RMS)}	140	280	420	35	70	140	280	420	560	700	Volts
Power Dissipation In V _(BR) Region for 100 μ sec Square Wave	P _{RM}	1500			NA						Watts	
Continuous Power Dissipation in V _(BR) Region at T _C = 40°C	P _R	4			NA						Watts	
Peak Surge Current, ½ Cycle at 60 Hz, (Non-Rep) and T _C = 80°C (Fig. 2)	I _{FSM}	300										Amps
Peak Surge Current, 1 sec at 60 Hz and T _C = 80°C (Fig. 2)	I _{FRM}	75										Amps
Avg. Forward Current at T _C = 80°C (Fig. 1)	I _O	30										Amps
Avg. Forward Current at T _A = 40°C (No Heat Sink)	I _O	5										Amps
Junction Operating and Storage Temperature Range	T _J , T _{STG}	- 50 to +150										°C
Fusing Data	I ² t	375										Amp ² - Sec

ELECTRICAL CHARACTERISTICS (At T _A = 25°C unless otherwise noted)	SYMBOL	CONTROLLED AVALANCHE			NON-CONTROLLED AVALANCHE						UNITS	
Series Number		VK247	VK447	VK647	VK048	VK148	VK248	VK448	VK648	VK848	VK1048	
Minimum Avalanche Voltage,	V _(BR)	250	450	650	NA						Volts	
Maximum Avalanche Voltage	V _(BR)	700	900	1100	NA						Volts	
Maximum Instantaneous Forward Voltage Drop (per diode) at 30 Amps (Fig. 3)	V _{FM}	1.4										Volts/ Leg
Maximum Reverse Current at Rated V _{RM} at T _J = 40°C, (Fig. 4)	I _{RM}	10										μ A
Maximum Reverse Current at Rated V _{RM} at T _J = 175°C, (Fig. 4)	I _{RM}	1.0										mA
Insulation Strength From Circuit to Case (min.)		2200										Volts DC
Maximum Thermal Resistance, Junction to Case	R _{θ J-C}	1.0										°C/W

Recognized Under Components Program of Underwriters Laboratories, Inc.



LTR	INCHES	MILLIMETERS
A	.162-.168 Dia.	4.11-4.27 Dia.
B	.345-.355 Dia.	8.76-9.02 Dia.
C	.23-.27 Typ.	5.84-6.86 Typ.
D	.138-.158 Typ.	3.51-4.01 Typ.
E	.38-.42 Typ.	9.65-10.67 Typ.
F	.245-.255 Typ.	6.22-6.48 Typ.
G	.85-.89 Sq.	21.59-22.61 Sq.
H	.76-.78 Sq.	19.30-19.81 Sq.
I	.030-.034 Typ.	.76-.86 Typ.
J	.09-.11	2.29-2.79 Typ.
K	.38-.42	9.65-10.67
L	.29-.30	7.37-7.62
M	.75 Max.	19.05 Max.
N	.89-1.04 Typ.	22.61-26.42 Typ.

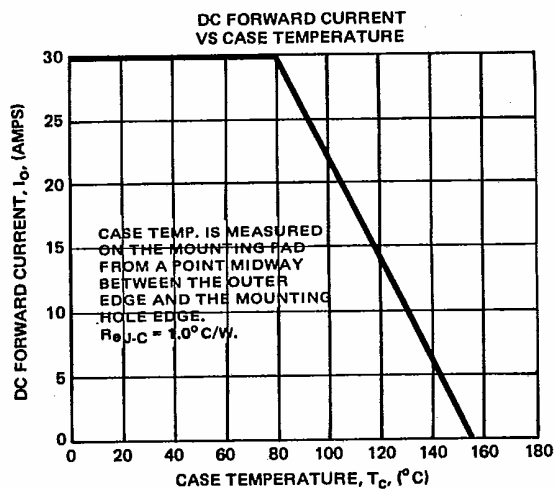


FIGURE 1

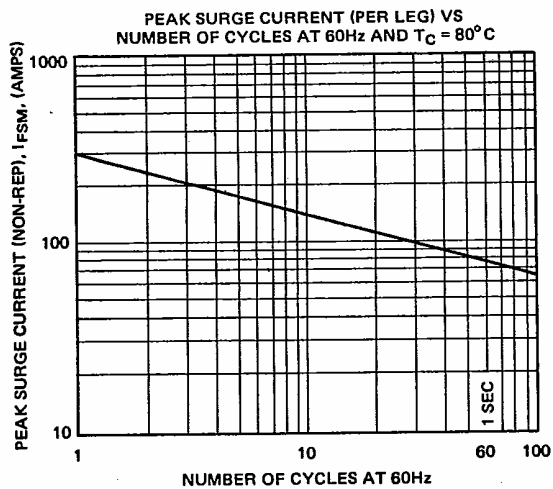


FIGURE 2

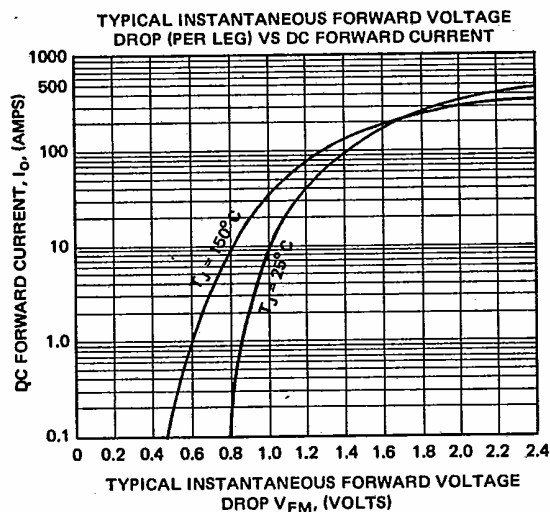


FIGURE 3

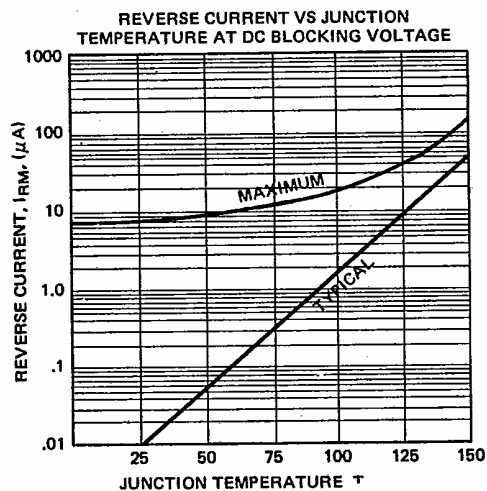


FIGURE 4

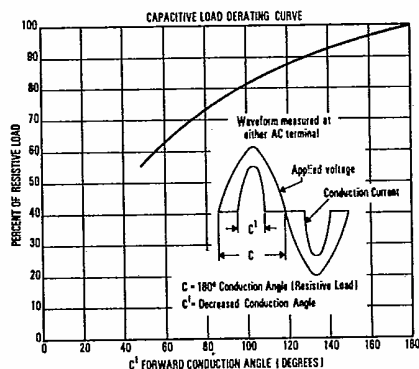


FIGURE 5

NOTES: 1. Standard parts have terminals bent up at approximately 90° angle from mounting plane. To order terminals parallel to mounting plane (see front page photo), change the second digit of the part number from "4" to "3" Example: Change VK247 to VK237.

FOR TYPICAL MOUNTING DETAIL, see page 32