30 Amp Epoxy Bridge Rectifiers VK Series

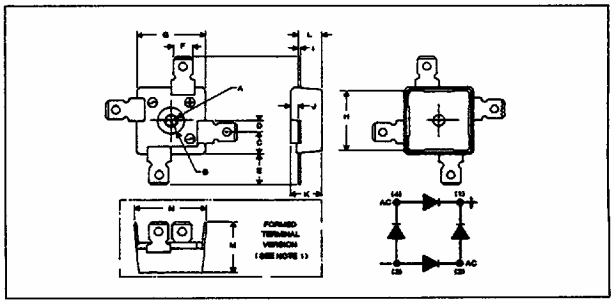
30 Amps DC Forward Current at $T_C = 80°C$

300 Amps Peak One Half Cycle Surge Current

Externally Exposed Copper Mounting Pad
For Low Thermal Resistance

2200 Volts Minimum Circuit-to-Case Insulation

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.	3,15–4,01 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.	19,30–19,82 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.



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

RATINGS	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^2t	375										Amp^2 – Sec

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

CHARACTERISTICS	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										μA
Maximum Reverse Current at Rated V_{RM} at $T_J = 150°C$, (Fig. 4)	I_{RM}	1.0										mA
Insulation Strength From Circuit to Case (min.)		2200										Volts DC
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.0										°C/W

Recognized Under Components Program of Underwriters Laboratories, Inc.

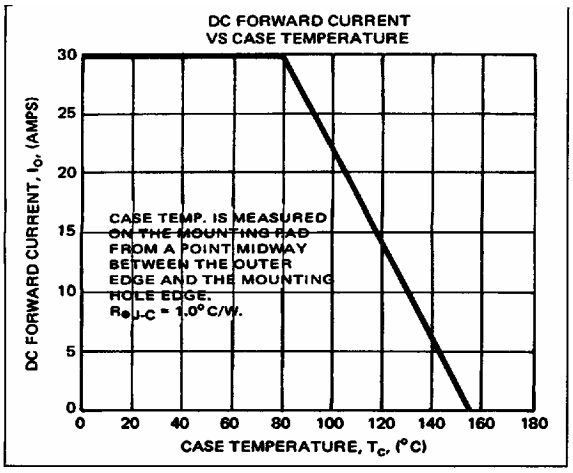


FIGURE 1

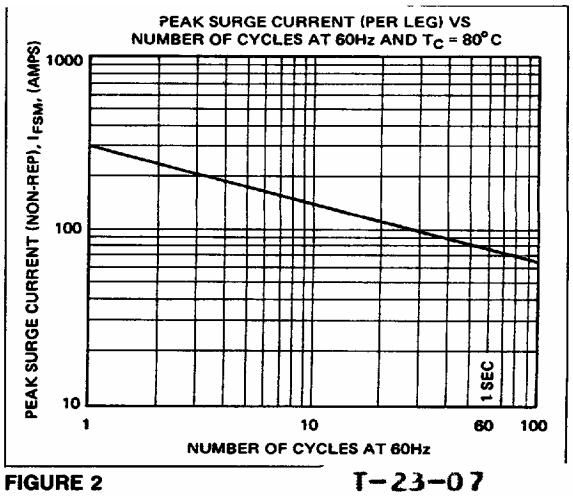


FIGURE 2

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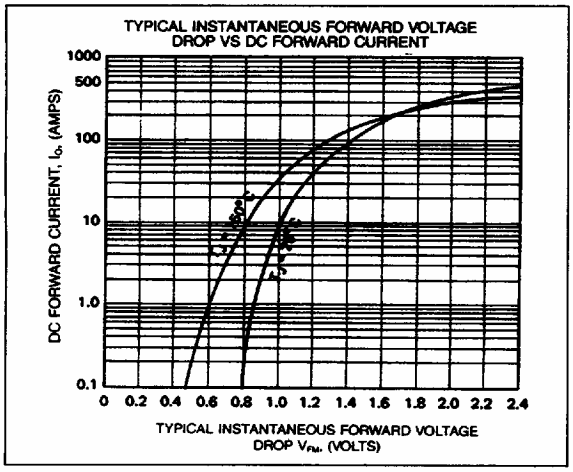

FIGURE 3

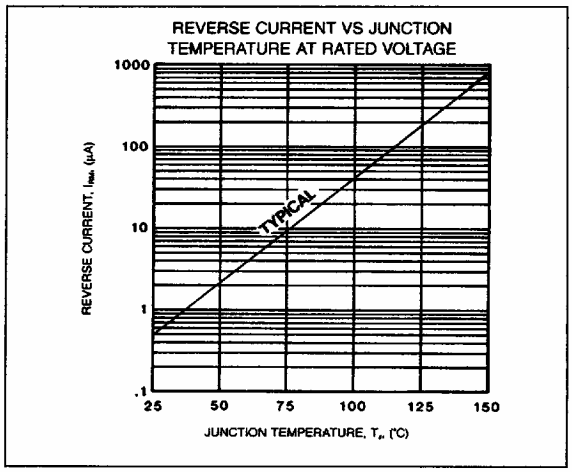

FIGURE 4

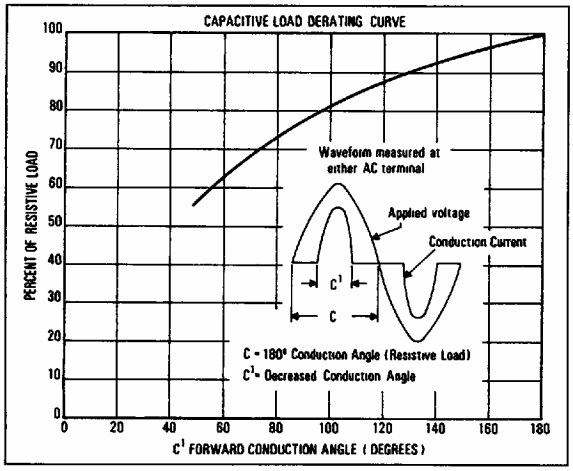

FIGURE 5

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.
2. Also available with center-tap common cathode, common anode and doubler circuits as shown below.

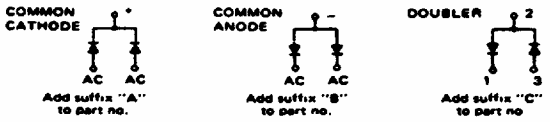

FIGURE 6