MOTOROLA
SEMICONDUCTORS
P.O. BOX 20912 • PHOENIX, ARIZONA 85036

MKP9V240 Series

PLASTIC SIDAC HIGH VOLTAGE BILATERAL TRIGGER

0.9 AMPERE RMS
240 to 270 VOLTS

PLASTIC SIDAC HIGH VOLTAGE BILATERAL TRIGGER — HIGH VOLTAGE TRIGGERS

. . . designed for direct interface with the ac power line. Upon reaching the breakover voltage in each direction, the device switches from a blocking state to a low voltage on-state. Conduction will continue like an SCR until the main terminal current drops below the holding current. The plastic axial lead package provides high pulse current capability at low cost. Glass passivation insures reliable operation. Applications are:

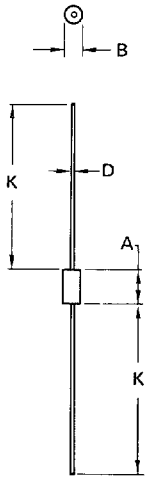
- High Pressure Sodium Vapor Lighting
- Strobes and Flashers
- Ignitors
- High Voltage Regulators
- Pulse Generators

MAXIMUM RATINGS

Rating	Symbol	Min	Max	Unit
Off-State Repetitive Voltage	V_{DRM}	—	±180	Volts
Off-State Current RMS (T_L = 80°C, LL = ⅜", conduction angle = 180°, 60 Hz Sine Wave)	$I_{T(RMS)}$	—	0.9	Amps
On-State Surge Current (Nonrepetitive) (60 Hz One Cycle Sine Wave, Peak Value)	I_{TSM}	—	4.0	Amps
Maximum Rate of Change of On-State Current	di/dt	—	90	Amps/μs
Operating Junction Temperature Range	T_J	−40	+125	°C
Storage Temperature Range	T_{stg}	−40	+150	°C
Lead Solder Temperature (Lead Length ≥ 1/16" from case, 10 s Max)	—	—	+230	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Thermal Resistance, Junction to Lead LL = ⅜"	$R_{\theta JL}$	—	40	°C/W



NOTES:
1. ALL RULES AND NOTES ASSOCIATED WITH JEDEC DO-41 OUTLINE SHALL APPLY.
2. POLARITY DENOTED BY CATHODE BAND.
3. LEAD DIAMETER NOT CONTROLLED WITHIN "F" DIMENSION.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	5.97	6.60	0.235	0.260
B	2.79	3.05	0.110	0.120
D	0.76	0.86	0.030	0.034
K	27.94	–	1.100	–

CASE 59-04

ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise noted; both directions)

Characteristic	Symbol	Min	Typ	Max	Unit
Breakover Voltage	V_{BO}				
MKP9V240		220	—	250	Volts
MKP9V260		240	—	270	Volts
MKP9V270		250	—	280	Volts
Repetitive Peak Off-State Current (60 Hz Sine Wave, V = V_{DRM})	I_{DRM}	—	—	5.0	μA
T_J = 125°C		—	—	50	μA
Forward "On" Voltage (I_T = 1.0 A)	V_{TH}		1.3	1.5	Volts
Dynamic Holding Current (60 Hz Sine Wave)	I_H	—	—	100	mA
Switching Resistance	R_S	0.1	—	—	kΩ
Breakover Current (60 Hz Sine Wave)	I_{BO}			200	μA

FIGURE 1 — MAXIMUM LEAD TEMPERATURE

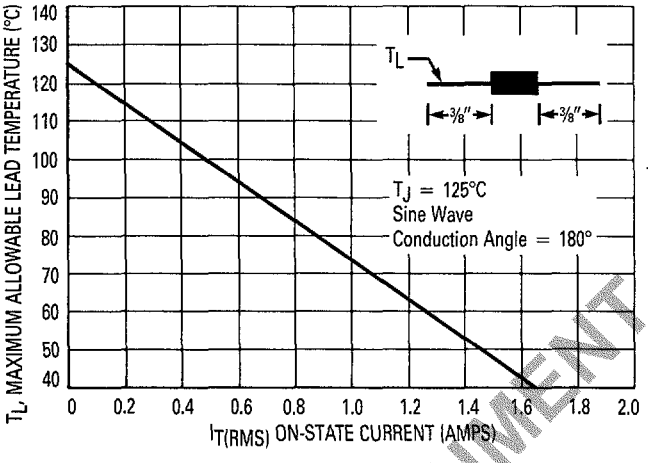


FIGURE 2 — MAXIMUM AMBIENT TEMPERATURE

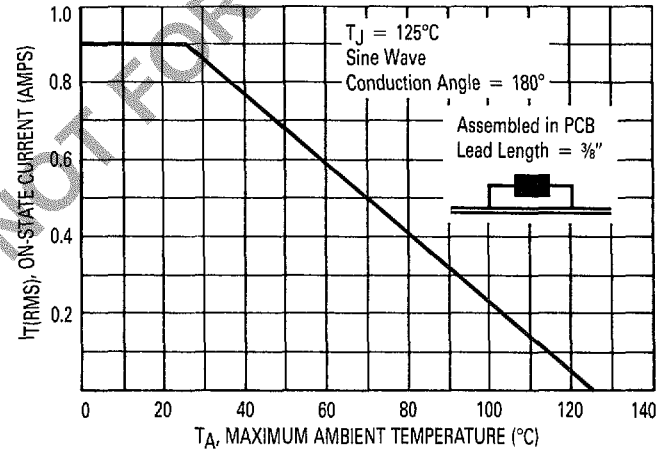


FIGURE 3 — TYPICAL ON-STATE VOLTAGE

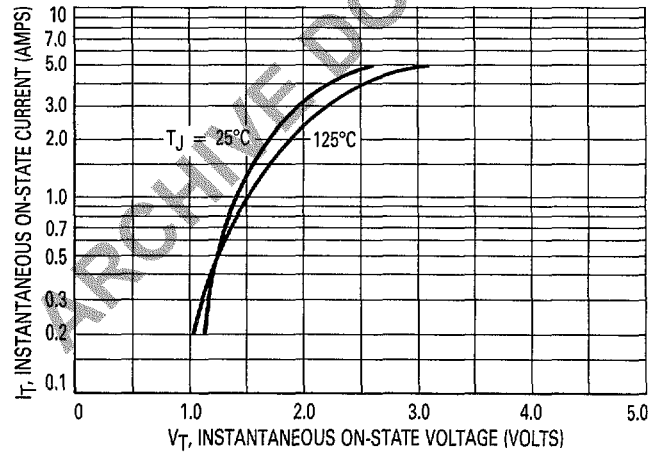
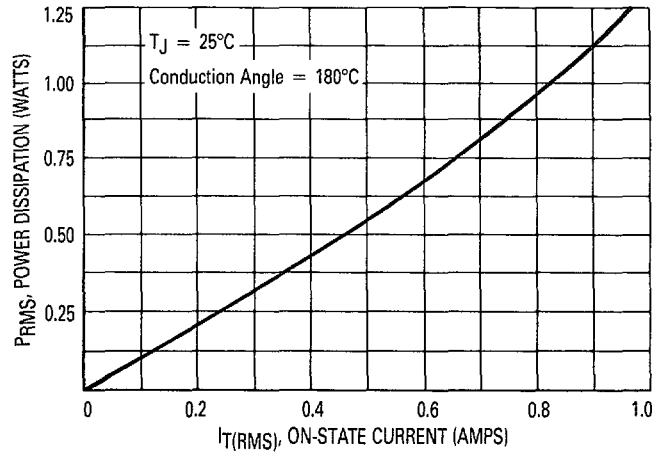
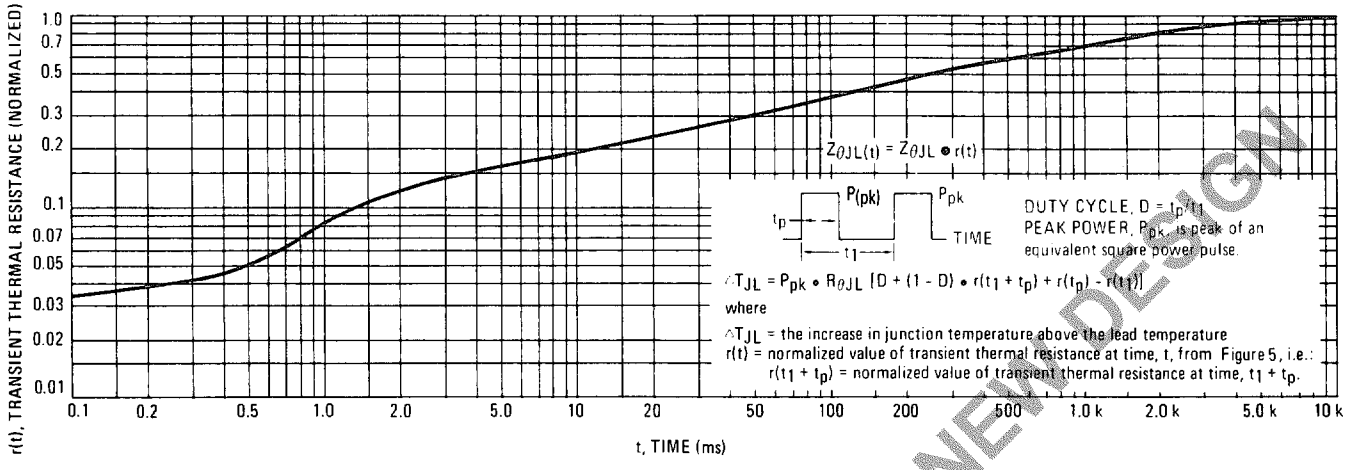


FIGURE 4 — POWER DISSIPATION



THERMAL CHARACTERISTICS

FIGURE 5 — THERMAL RESPONSE



TYPICAL CHARACTERISTICS

FIGURE 6 — BREAKOVER VOLTAGE

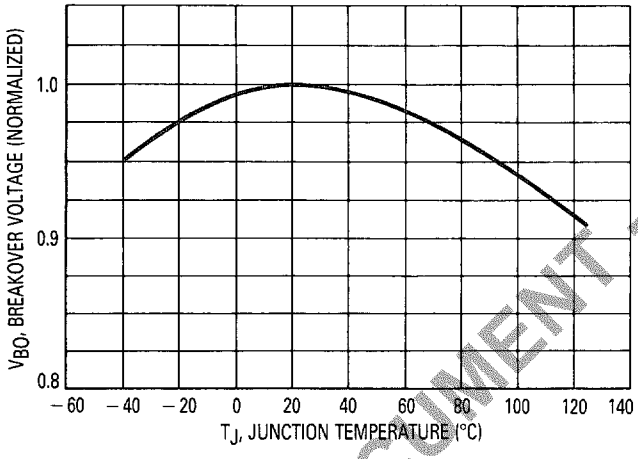


FIGURE 7 — HOLDING CURRENT

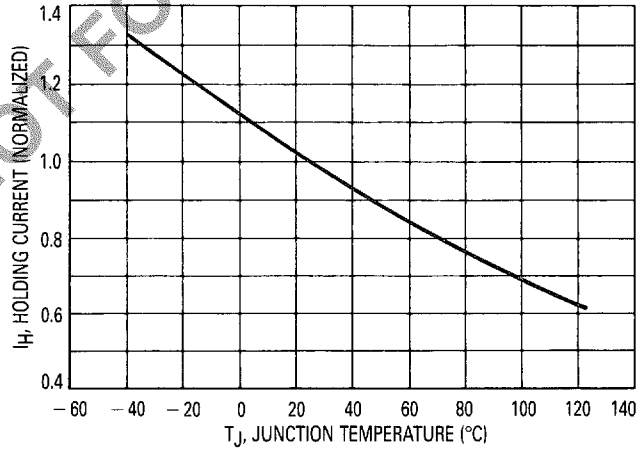


FIGURE 8 — PULSE RATING CURVE

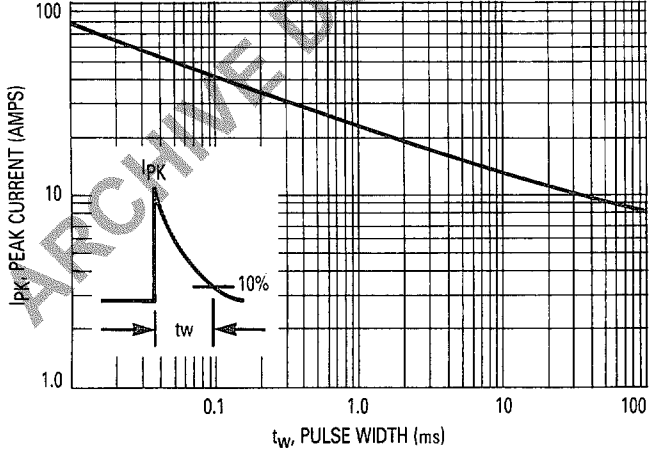
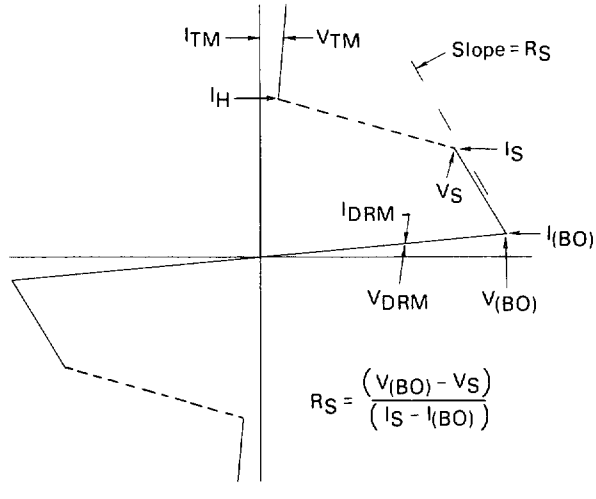


FIGURE 9 — V-1 CHARACTERISTICS



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