

VOLTAGE RANGE: 40V
CURRENT: 3.0 A

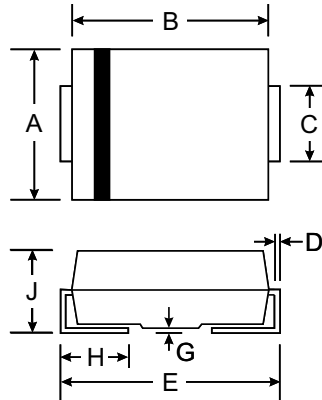
Features

- Surface Mounting Device
- Extremely Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Capability



Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)



SMB(DO-214AA)		
Dim	Min	Max
A	3.30	3.94
B	4.06	4.70
C	1.91	2.21
D	0.15	0.31
E	5.00	5.59
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	NSQ03A04	Unit
Repetitive Peak Reverse Voltage	V _{RRM}	40	V
Average Rectified Output Current Ta=25 °C *1 50Hz Half Sine Wave Resistive Load	I _o	1.6 2 3.0	A
RMS Forward Current	I _{F(RMS)}	4.71	A
Surge Forward Current 50Hz Half Sine Wave, 1cycle Non-repetitive	I _{FSM}	80	A
Operating Junction Temperature Range	T _{jw}	-40 to +150	°C
Storage Temperature Range	T _{stg}	-40 to +150	°C

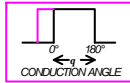
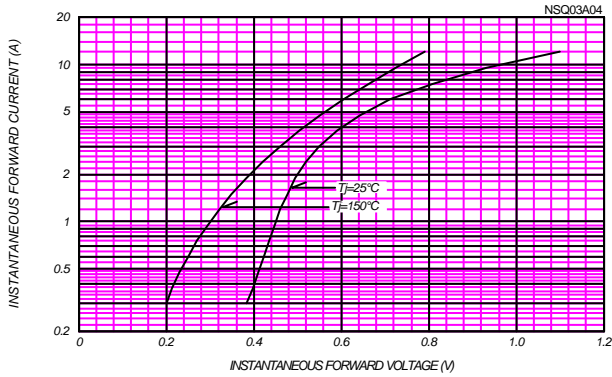
Electrical • Thermal Characteristics

Characteristics	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Current	I _{RM}	T _j = 25 °C, V _{RM} = V _{RRM}	-	-	3	mA
Peak Forward Voltage	V _{FM}	T _j = 25 °C, I _{FM} = 3.0A	-	-	0.55	V
Thermal Resistance	Junction to Ambient	R _{th(j-a)}	-	-	89	C °/W
	Junction to Lead	R _{th(j-l)}	-	-	13	

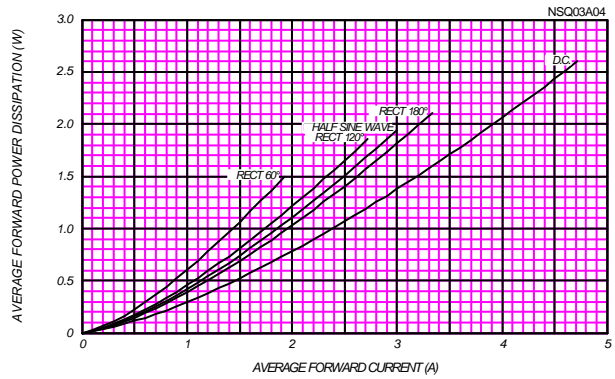
*1 Alumina Substrate Mounted (Soldering Lands=2x3.5mm, Both Sides)

(T_l: Lead Temperature)

FORWARD CURRENT VS. VOLTAGE

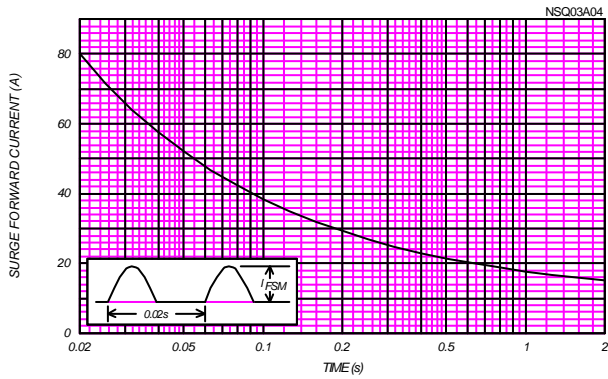


AVERAGE FORWARD POWER DISSIPATION



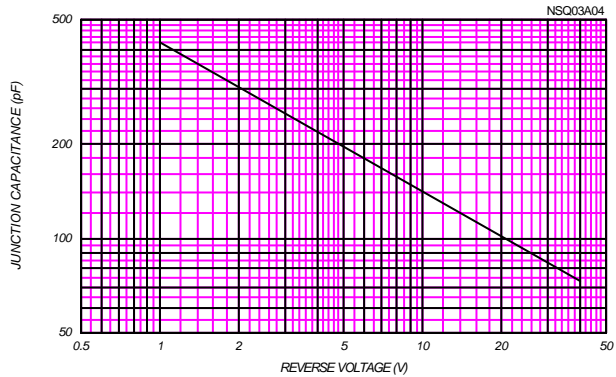
SURGE CURRENT RATINGS

$f = 50\text{Hz}$, Half Sine Wave, Non-Repetitive, No Load



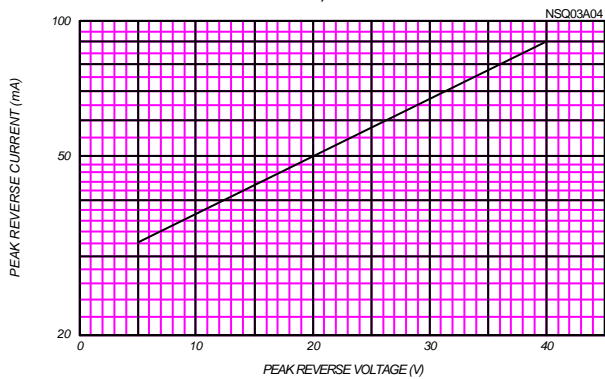
JUNCTION CAPACITANCE VS. REVERSE VOLTAGE

$T_j = 25^\circ\text{C}$, $V_m = 20\text{mV}_{RMS}$, $f = 100\text{kHz}$, Typical Value

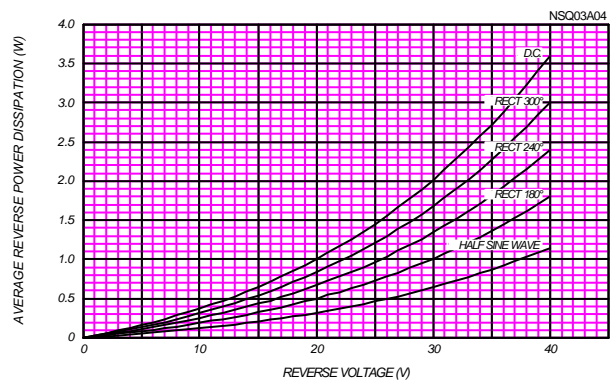


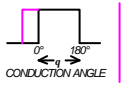
PEAK REVERSE CURRENT VS. PEAK REVERSE VOLTAGE

$T_j = 150^\circ\text{C}$



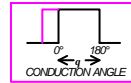
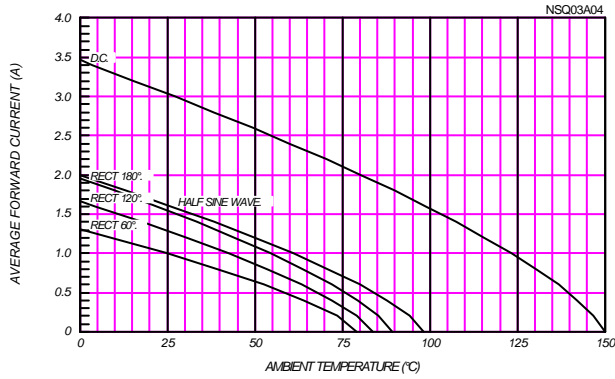
AVERAGE REVERSE POWER DISSIPATION





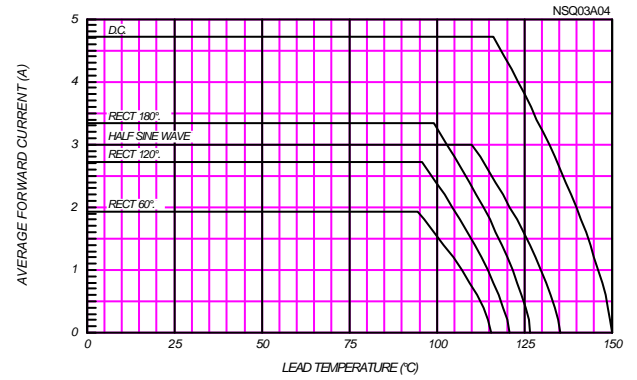
AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE

Alumina Substrate Mounted, $V_{RM}=40V$



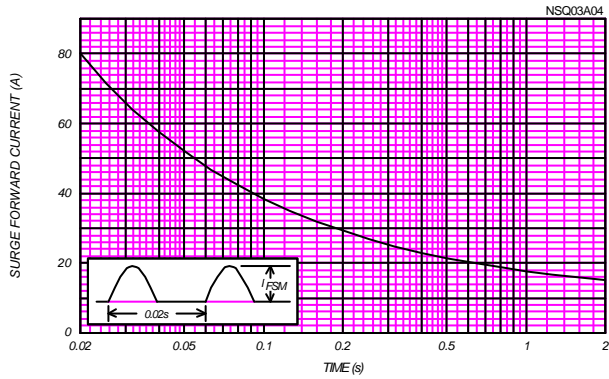
AVERAGE FORWARD CURRENT VS. LEAD TEMPERATURE

$V_{RM}=40V$



SURGE CURRENT RATINGS

$f=50\text{Hz}$, Half Sine Wave, Non-Repetitive, No Load



JUNCTION CAPACITANCE VS. REVERSE VOLTAGE

$T_J=25^\circ\text{C}$, $V_m=20\text{mV}_{RMS}$, $f=100\text{kHz}$, Typical Value

