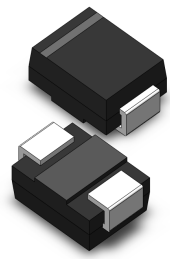
NSQ03A06

SURFACE MOUNT SCHOTTKY BARRIER DIODES

VOLTAGE RANGE: 60 V
CURRENT: 3.0 A



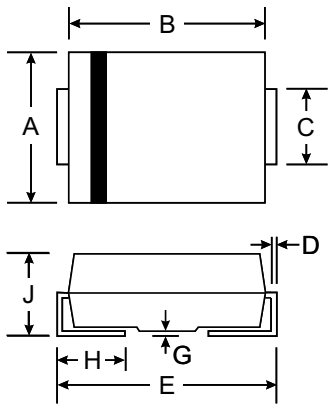
Features

- 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.)

RoHS COMPLIANT



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%.

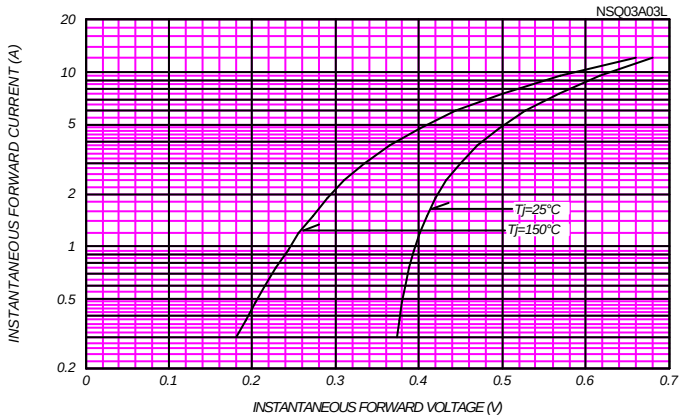
Characteristic	Symbol	NSQ03A06	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	60	V
Average Rectified Output Current Ta=25 °C *1 50Hz Half Sine Wave Resistive Load Tl=96 °C	Io	1.36 3.0	A
RMS Forward Current	$I_{F(RMS)}$	4.71	A
Surge Forward Current 50Hz Half Sine Wave,1cycle Non-repetitive	I_{FSM}	50	A
Operating JunctionTemperature Range	T_{jw}	-40 to +150	℃
Storage Temperature Range	T_{stg}	-40 to +150	℃

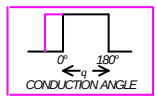
Electrical● Thermal Characteristics

Characteristics		Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Current		I_{RM}	Tj= 25 °C, V_{RM} = V_{RRM}	-	-	3	mA
Peak Forward Voltage		V_{FM}	Tj= 25 °C, I_{FM} = 3.0A	-	-	0.58	V
Thermal Resistance	Junction to Ambient	Rth(j-a)	Alumina Substrate Mounted *1	-	-	89	C°/W
	Junction to Lead	Rth(j-l)	-	-	-	13	

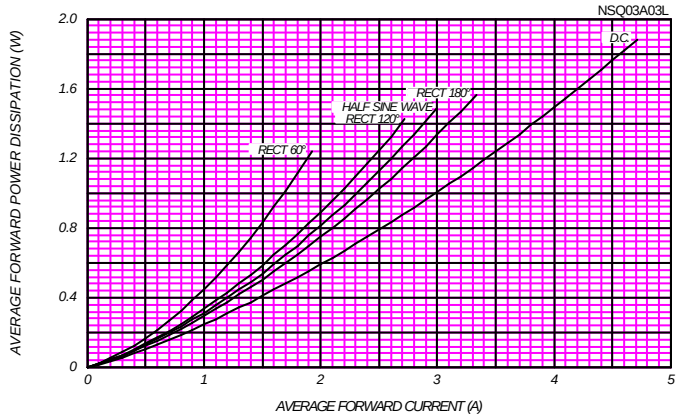
*1 Alumina Substrate Mounted (Soldering Lands=2x3.5mm,Both Sides)
(Tl: Lead Temperature)

FORWARD CURRENT VS. VOLTAGE



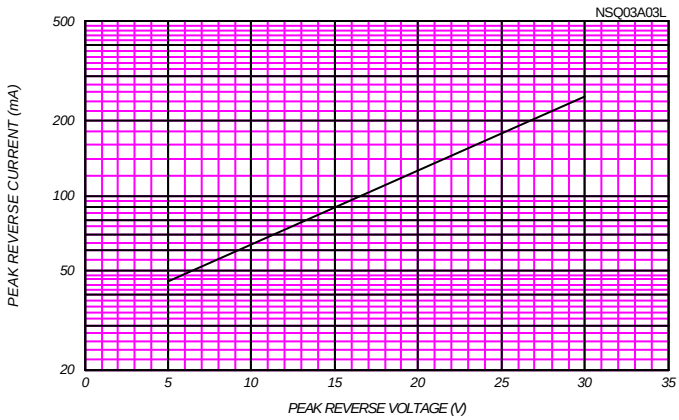


AVERAGE FORWARD POWER DISSIPATION

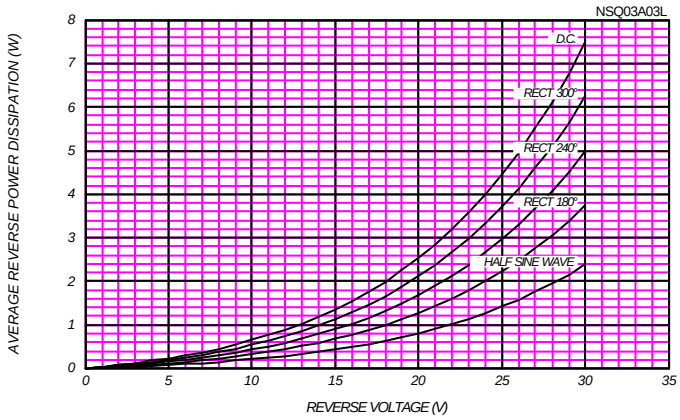


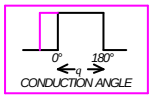
PEAK REVERSE CURRENT VS. PEAK REVERSE VOLTAGE

Tj= 150 °C



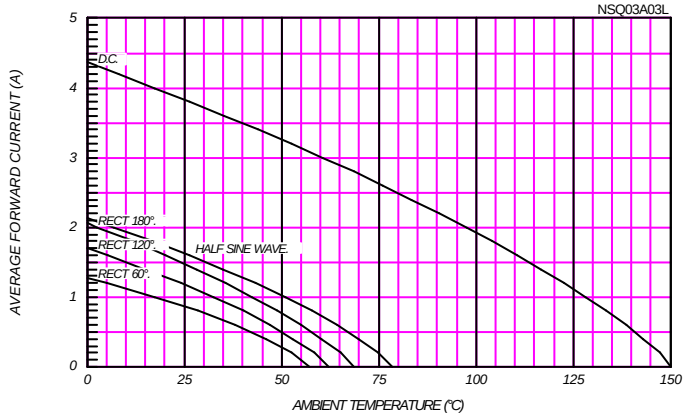
AVERAGE REVERSE POWER DISSIPATION

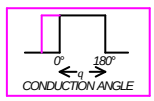




AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE

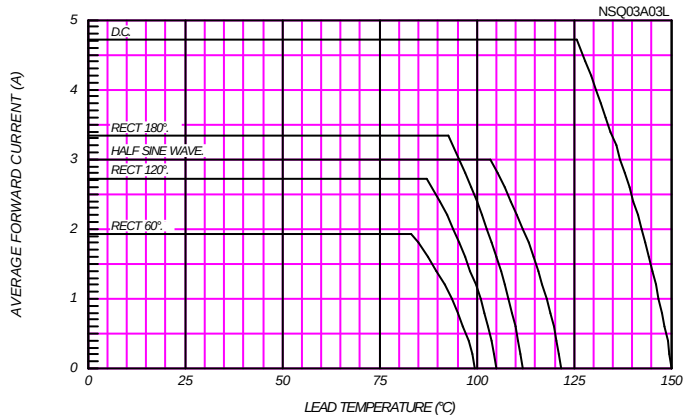
Alumina Substrate Mounted (Soldering Land=2×3.5mm),V_{RM}=30V





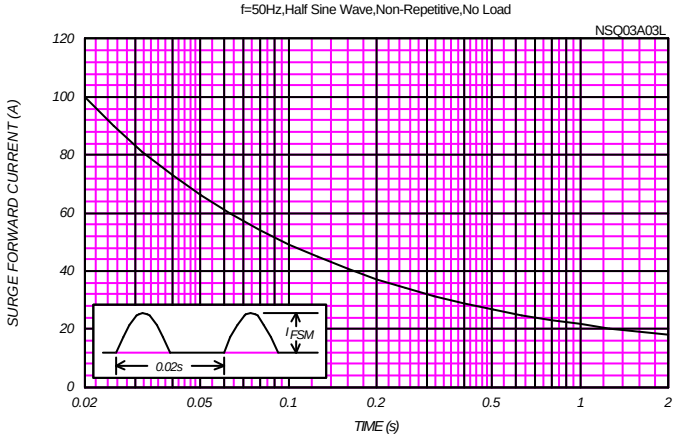
AVERAGE FORWARD CURRENT VS. LEAD TEMPERATURE

V_{RM}=30V



SURGE CURRENT RATINGS

f=50Hz,Half Sine Wave,Non-Repetitive,No Load



JUNCTION CAPACITANCE VS. REVERSE VOLTAGE

Tj=25°C,Vm=20mVRMS,f=100kHz,Typical Value