

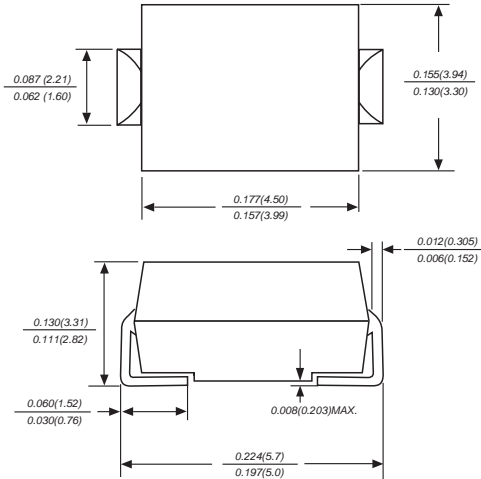
## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 40 Volts

Forward Current - 2.0 Amperes

SMB-D

DO-214AA



Dimensions in inches and (millimeters)

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals

### MECHANICAL DATA

**Case:** JEDEC DO-214AA molded plastic body  
**Terminals:** leads solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.006 ounce, 0.166 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

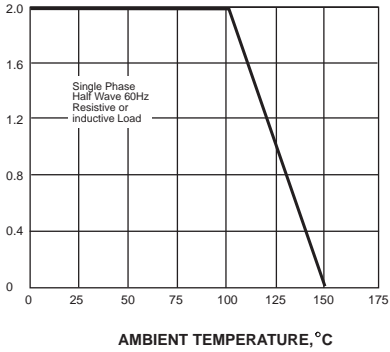
	SYMBOLS	10BQ040	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	40	VOLTS
Maximum RMS voltage	$V_{RMS}$	28	VOLTS
Maximum DC blocking voltage	$V_{DC}$	40	VOLTS
Maximum average forward rectified current at $T_L$ (see fig.1)	$I_{(AV)}$	2.0	Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	50.0	Amps
Maximum instantaneous forward voltage at 2.0A	$V_F$	0.55	Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	0.5 20	mA
Typical junction capacitance (NOTE 1)	$C_J$	220	pF
Typical thermal resistance (NOTE 2)	$R_{qJA}$	75.0	°C/W
Operating junction temperature range	$T_J$	-65 to +150	°C
Storage temperature range	$T_{STG}$	-65 to +150	°C

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 2. P.C.B. mounted with 0.4x0.4" (10x10mm) copper pad areas

# RATINGS AND CHARACTERISTIC CURVES 10BQ040

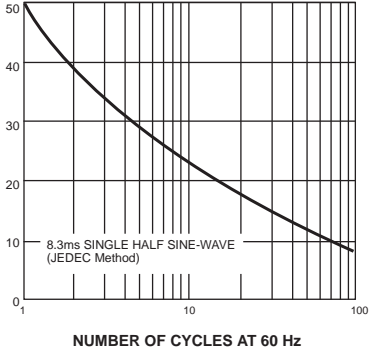
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



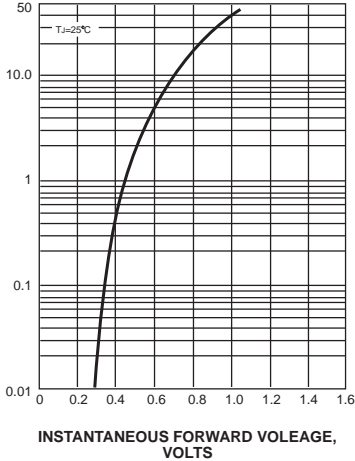
PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



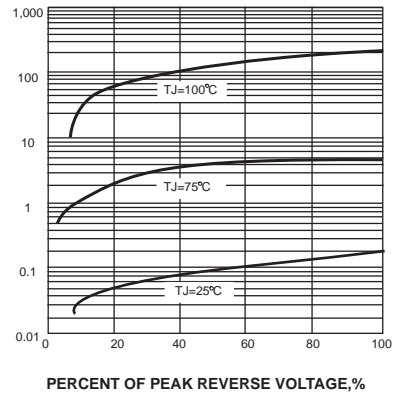
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



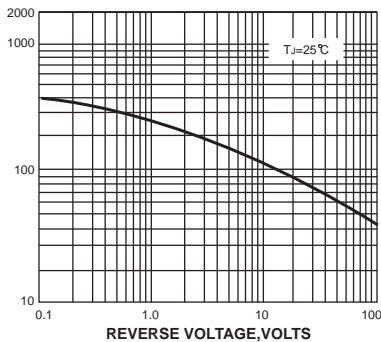
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

