

# BYV27-600

**SINTERED GLASS JUNCTION  
ULTRAFAST AVALANCHE RECTIFIER**  
VOLTAGE: 600V                      CURRENT: 1.6A



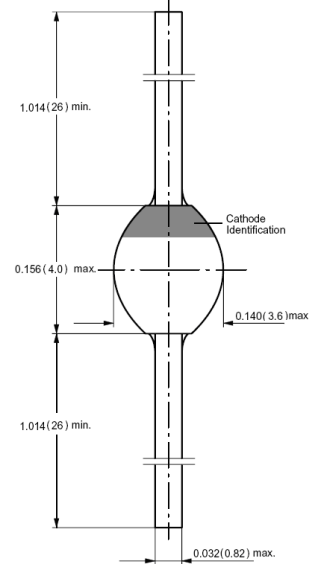
## FEATURE

- Glass passivated
- High maximum operating temperature
- Low leakage current
- Excellent stability
- Guaranteed avalanche energy absorption capability

## MECHANICAL DATA

- Case: SOD-57 sintered glass case
- Terminal: Plated axial leads solderable per MIL-STD 202E, method 208C
- Polarity: color band denotes cathode end
- Mounting position: any

## SOD-57



Dimensions in inches and (millimeters)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(single-phase, half-wave, 60HZ, resistive or inductive load rating at 25°C, unless otherwise stated)

	SYMBOL	BYV27-600	units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	600	V
Maximum RMS Voltage	$V_{RMS}$	420	V
Maximum DC blocking Voltage	$V_{DC}$	600	V
Reverse avalanche breakdown voltage at $I_R = 0.1 \text{ mA}$	$V_{(BR)R}$	675min	V
Maximum Average Forward Rectified Current 3/8" lead length at $T_{tp} = 85^\circ\text{C}$	$I_{FAV}$	1.6	A
Non-repetitive Peak Forward Current at $t=10\text{ms}$ half sine wave	$I_{FSM}$	40	A
Maximum Forward Voltage at Forward Current 2.0A	$V_F$	1.25	V
Non-repetitive peak reverse avalanche energy (Note 1)	$E_{RSM}$	20	mJ
Maximum DC Reverse Current at rated DC blocking voltage $T_a = 25^\circ\text{C}$ $T_a = 165^\circ\text{C}$	$I_R$	5.0 150.0	$\mu\text{A}$
Maximum Reverse Recovery Time (Note 2)	$T_{rr}$	50	nS
Diode Capacitance (Note 3)	$C_d$	65	pF
Typical Thermal Resistance (Note 4)	$R_{th(ja)}$	100	K/W
Storage and Operating Junction Temperature	$T_{stg}, T_j$	-65 to +175	$^\circ\text{C}$

### Note:

- $R=400\text{mA}$ ;  $T_j=T_{jmax}$  prior to surge; inductive load switched off
- Reverse Recovery Condition  $I_f = 0.5\text{A}$ ,  $I_r = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$
- Measured at 1.0 MHz and applied reverse voltage of 0Vdc
- Device mounted on an epoxy-glass printed-circuit board, 1.5mm thick; thickness of Cu-layer  $\geq 40 \mu\text{m}$

## RATINGS AND CHARACTERISTIC CURVES BYV27-600

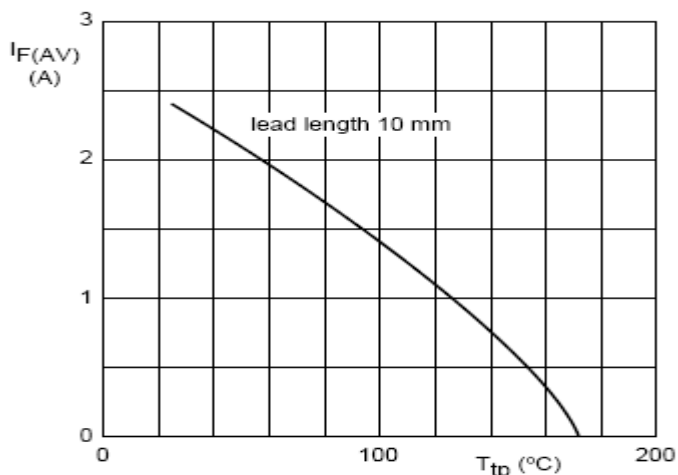


Fig. 1 Maximum permissible average forward current as a function of tie-point temperature (including losses due to reverse leakage).

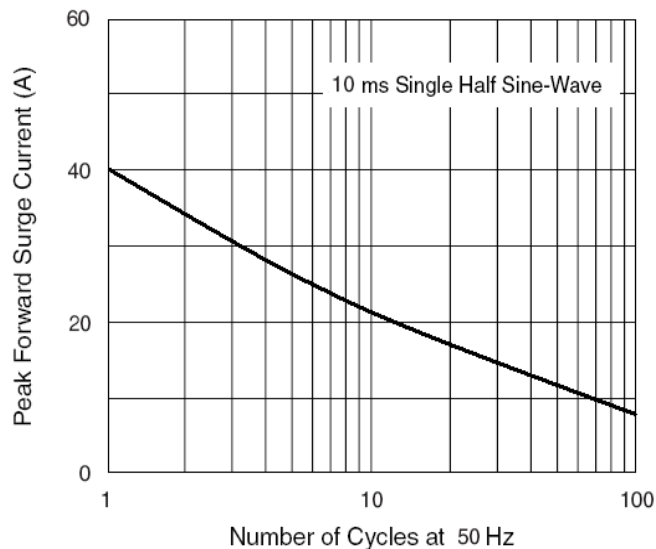


Fig. 2 Maximum non-repetitive peak forward surge current

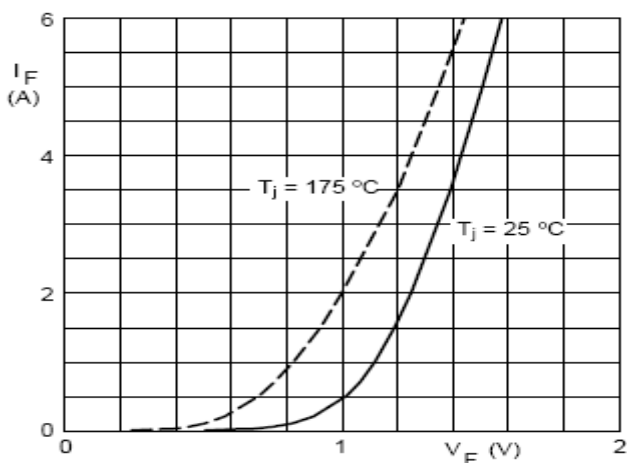


Fig. 3 Forward current as a function of forward voltage; maximum values.

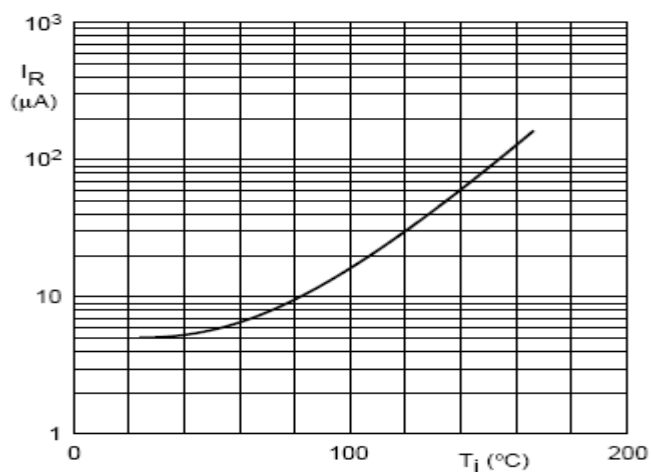


Fig. 4 Reverse current as a function of junction temperature; maximum values.

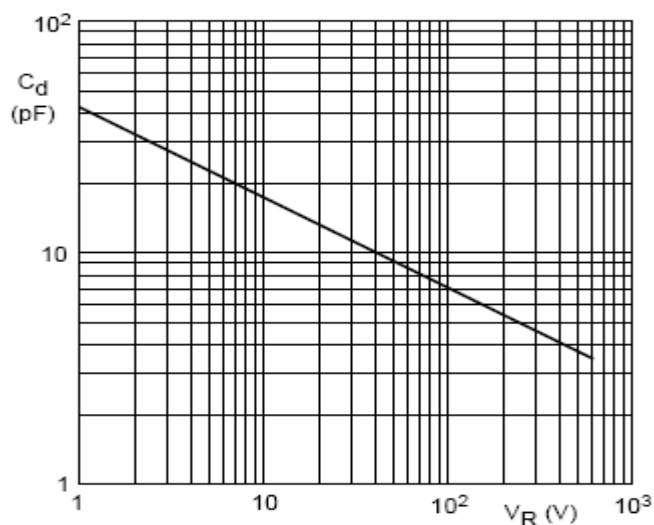


Fig. 5 Diode capacitance as a function of reverse voltage; typical values.

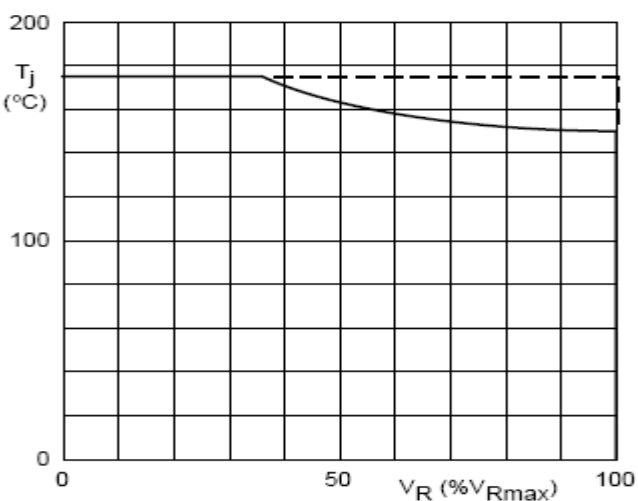


Fig. 6 Maximum permissible junction temperature as a function of maximum reverse voltage percentage.