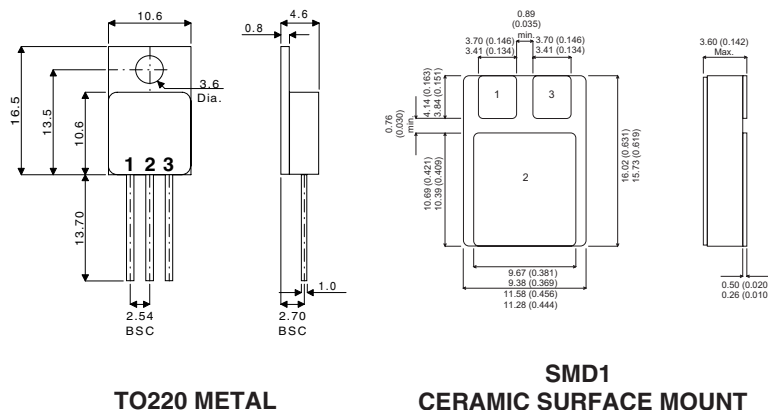


## MECHANICAL DATA

Dimensions in mm



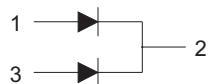
TO220 METAL

SMD1  
CERAMIC SURFACE MOUNT

## ELECTRICAL CONNECTIONS

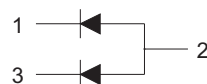
Common Cathode    Common Anode    Series Connection

BYV34-xxxM



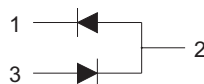
1 = A<sub>1</sub> Anode 1  
 2 = K Cathode  
 3 = A<sub>2</sub> Anode 2

BYV34-xxxAM



1 = K<sub>1</sub> Cathode 1  
 2 = A Anode  
 3 = K<sub>2</sub> Cathode 2

BYV34-xxxRM



1 = K<sub>1</sub> Cathode 1  
 2 = Centre Tap  
 3 = A<sub>2</sub> Anode

## HERMETICALLY SEALED DUAL FAST RECOVERY SILICON RECTIFIER FOR HI-REL APPLICATIONS

- STANDARD (COMMON CATHODE)
- COMMON ANODE
- SERIES CONNECTION

## FEATURES

- HERMETIC TO220 METAL OR CERAMIC SURFACE MOUNT PACKAGE
- SCREENING OPTIONS AVAILABLE
- ALL LEADS ISOLATED FROM CASE
- VOLTAGE RANGE 300 TO 500V
- AVERAGE CURRENT 20A
- VERY LOW REVERSE RECOVERY TIME –  $t_{rr} = 35\text{ns}$
- VERY LOW SWITCHING LOSSES

Applications include secondary rectification in high frequency switching power supplies.

ABSOLUTE MAXIMUM RATINGS ( $T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)		BYV34 –300M	BYV34 –400M	BYV34 –500M
$V_{\text{RRM}}$	Peak Repetitive Reverse Voltage	300V	400V	500V
$V_{\text{RWM}}$	Working Peak Reverse Voltage	300V	300V	400V
$V_{\text{R}}$	Continuous Reverse Voltage	300V	300V	400V
$I_{\text{FRM}}$	Repetitive Peak Forward Current $t_p = 10\mu\text{s}$		200A	
$I_{\text{F(AV)}}$	Average Forward Current $T_{\text{case}} = 70^{\circ}\text{C}$ (switching operation, $\delta = 0.5$ , both diodes conducting)		20A	
$I_{\text{FSM}}$	Surge Non Repetitive Forward Current $t_p = 10\text{ms}$		100A	
$T_{\text{stg}}$	Storage Temperature Range		–65 to 200°C	
$T_{\text{j}}$	Maximum Operating Junction Temperature		200°C	

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

**ELECTRICAL CHARACTERISTICS** (per Diode) ( $T_{\text{case}} = 25^{\circ}\text{C}$  unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_R$ Reverse Current	$V_R = V_{RWM}$ $T_j = 25^{\circ}\text{C}$			50	$\mu\text{A}$
	$V_R = V_{RWM}$ $T_j = 100^{\circ}\text{C}$			0.6	mA
$V_F$ * Forward Voltage	$I_F = 20\text{A}$ $T_C = 25^{\circ}\text{C}$			1.7	V
	$I_F = 10\text{A}$ $T_C = 100^{\circ}\text{C}$			1.05	
$t_{rr}$ Reverse Recovery Time	$I_F = 1.0\text{A}$ $V_R = 30\text{V}$ $di / dt = 100\text{A}/\mu\text{s}$			50	ns
$Q_{rr}$ Recovered Charge	$I_F = 2\text{A}$ $V_R = 30\text{V}$ $di / dt = 20\text{A}/\mu\text{s}$			50	nC
$V_{FP}$ Forward Recovery Overvoltage	$di / dt = 10\text{A}/\mu\text{s}$ $I_F = 10\text{A}$		2.5		V

\* Pulse Test:  $t_p \leq 300\mu\text{s}$ , duty cycle  $\leq 2\%$ .

**THERMAL CHARACTERISTICS (TO220 METAL CASE)**

$R_{\theta JC}^{\dagger}$ Thermal Resistance Junction – Case			1.6	$^{\circ}\text{C}/\text{W}$
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$\dagger$  Both diodes conducting.

# Mouser Electronics

Authorized Distributor

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