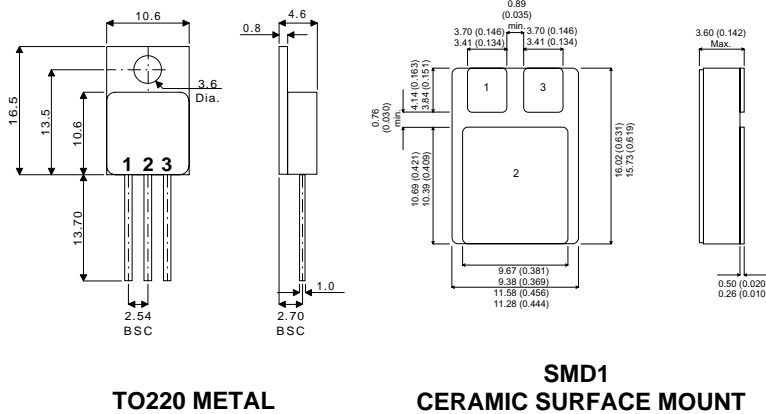


## MECHANICAL DATA

Dimensions in mm



TO220 METAL

SMD1  
CERAMIC SURFACE MOUNT

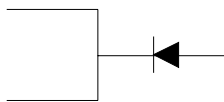
## HERMETICALLY SEALED FAST RECOVERY SILICON RECTIFIER FOR HI-REL APPLICATIONS

### FEATURES

- HERMETIC TO220 METAL OR CERAMIC SURFACE MOUNT PACKAGES
- SCREENING OPTIONS AVAILABLE
- ALL LEADS ISOLATED FROM CASE
- VOLTAGE RANGE 50 TO 200V
- AVERAGE CURRENT 8A
- VERY LOW REVERSE RECOVERY TIME –  $t_{rr} = 35\text{ns}$
- VERY LOW SWITCHING LOSSES

## ELECTRICAL CONNECTIONS

BYV29xxxM



1 = K Cathode  
2 = K Cathode  
3 = A Anode

Applications include secondary rectification in high frequency switching power supplies

### ABSOLUTE MAXIMUM RATINGS ( $T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)

		BYV29 –3000M	BYV29 –400M	BYV29 –500M
$V_{\text{RRM}}$	Peak Repetitive Reverse Voltage	300V	400V	500V
$V_{\text{RWM}}$	Working Peak Reverse Voltage	200V	30V	400V
$V_{\text{R}}$	Continuous Reverse Voltage	200V	300V	400V
$I_{\text{FRM}}$	Repetitive Peak Forward Current		200A	
				$t_p = 10\mu\text{s}$
$I_{\text{F(AV)}}$	Average Forward Current		9A	
	(switching operation, $\delta = 0.5$ )			$T_{\text{case}} = 70^{\circ}\text{C}$
$I_{\text{FSM}}$	Surge Non Repetitive Forward Current		100A	
				$t_p = 10\text{ms}$
$T_{\text{stg}}$	Storage Temperature Range		–65 to 200°C	
$T_{\text{j}}$	Maximum Operating Junction Temperature		200°C	

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_R$ Reverse Current	$V_R = V_{RWM}$ $T_j = 25^{\circ}\text{C}$			30	$\mu\text{A}$
	$V_R = V_{RWM}$ $T_j = 100^{\circ}\text{C}$			0.6	mA
$V_F$ * Forward Voltage	$I_F = 8\text{A}$ $T_C = 25^{\circ}\text{C}$			1.1	V
	$I_F = 20\text{A}$ $T_C = 25^{\circ}\text{C}$			1.5	
	$I_F = 5\text{A}$ $T_C = 100^{\circ}\text{C}$			0.95	
$t_{rr}$ Reverse Recovery Time	$I_F = 1\text{A}$ $V_R = 30\text{V}$ $di / dt = 50\text{A}/\mu\text{s}$			35	ns
	$I_F = 2\text{A}$ $V_R = 30\text{V}$ $di / dt = 20\text{A}/\mu\text{s}$			50	
$Q_{rr}$ Recovered Charge	$I_F = 2\text{A}$ $V_R = 30\text{V}$ $di / dt = 20\text{A}/\mu\text{s}$			15	nC
$V_{FP}$ Forward Recovery Overvoltage	$I_F = 1\text{A}$ $di / dt = 0\text{A}/\mu\text{s}$		1.0		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			2.6	$^{\circ}\text{C}/\text{W}$
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