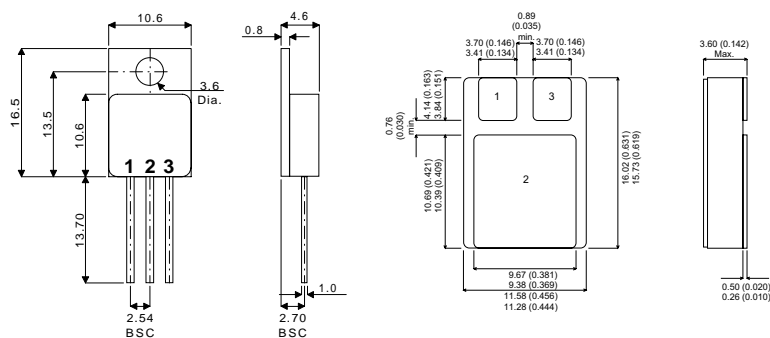


MECHANICAL DATA

Dimensions in mm



TO220 METAL

SMD1 CERAMIC SURFACE MOUNT

**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 – $t_{rr} = 35ns$
- VERY LOW SWITCHING LOSSES

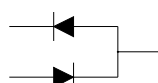
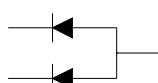
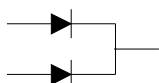
ELECTRICAL CONNECTIONS

Common Cathode Common Anode Series Connection

BYV34-xxxM

BYV34-xxxAM

BYV34-xxxRM



1 = A₁ Anode 1
2 = K Cathode
3 = A₂ Anode 2

1 = K₁ Cathode 1
2 = A Anode
3 = K₂ Cathode 2

1 = K₁ Cathode 1
2 = Centre Tap
3 = A₂ Anode

Applications include secondary rectification in high frequency switching power supplies.

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

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	μA
	$V_R = V_{RWM}$ $T_j = 100^{\circ}\text{C}$			0.6	mA
V_F^* Forward Voltage	$I_F = 30\text{A}$ $T_C = 25^{\circ}\text{C}$			1.7	V
	$I_F = 10\text{A}$ $T_C = 100^{\circ}\text{C}$			1.05	
t_{rr} Reverse Recovery Time	$I_F = 1\text{A}$ $V_R = 30\text{V}$ $di / dt = 100\text{A}/\mu\text{s}$			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.