

# BYP57 / BYP58

## 35A Silicon Power Rectifier Diode

### Description

The BYP57/58 are plastic sealed 35A- diodes, which are available in different reverse voltage classes up to 800V.

The diodes can be delivered with limited forward voltage and reverse current differences for parallel connecting in rectifier stacks and back-off-diodes

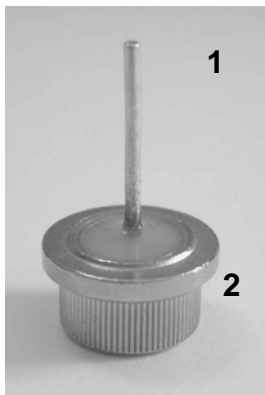
### Features

- Forward current 35A
- Reverse voltage 75V – 800V
- Hermetic press-fit package
- Available in different modifications of the package

### Applications

- Power supplies
- Rectifier diode in car generators
- Rectifier bridges/stacks
- Back-off-diodes

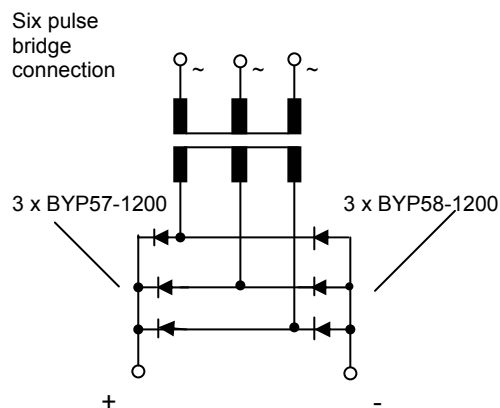
### Pinout details



**BYP57:** 1 - cathode  
2 - anode

**BYP58:** 1 - anode  
2 - cathode

### Typical application circuit

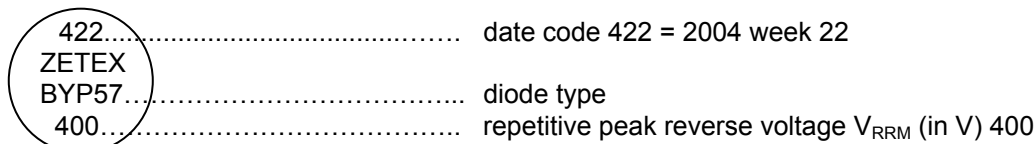


### Ordering information

Device	Quantity per box	Options
BYP57-75; ...; BYP57-800	400	The package quantities for the different package modifications are included in "PressFitPackageModifications.pdf"
BYP58-75; ...; BYP58-800	400	

### Device marking

Devices are identified by type. Colour of marking: BYP57- black, BYP58 – red



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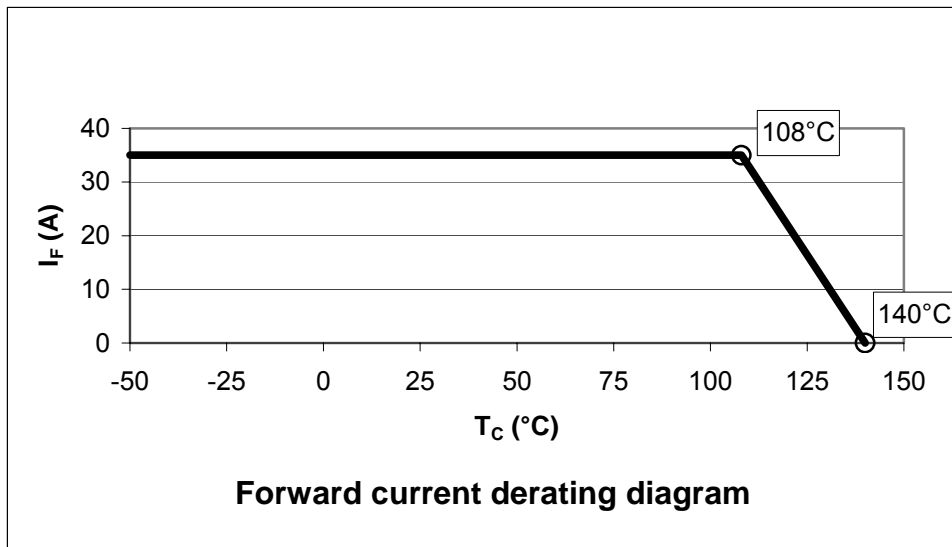
**Absolute maximum ratings** (at  $T_{amb} = 25^{\circ}\text{C}$  unless otherwise stated)

Parameter		Symbol		Unit	Test condition	
Repetitive peak reverse voltage	BYP57-75	BYP58-75	$V_{RRM}$	75	V	$T_c = 140^{\circ}\text{C}$
	BYP57-100	BYP58-100		100		
	BYP57-150	BYP58-150		150		
	BYP57-200	BYP58-200		200		
	BYP57-300	BYP58-300		300		
	BYP57-400	BYP58-400		400		
	BYP57-500	BYP58-500		500		
	BYP57-600	BYP58-600		600		
	BYP57-700	BYP58-700		700		
	BYP57-800	BYP58-800		800		
Forward current, arithmetic value		$I_{FAV}$	35	A		
Surge forward current		$I_{FSM}$	600	A	half-sine wave, $\leq 10$ ms	
			500		$T_J = 175^{\circ}\text{C}$ half-sine wave, $\leq 10$ ms	
Maximum rated value		$\int i^2 dt$	1800	$\text{A}^2\text{s}$	half-sine wave, $\leq 10$ ms	
			1250		$T_J = 175^{\circ}\text{C}$ half-sine wave, $\leq 10$ ms	
Repetitive peak forward current		$I_{FRM} = \pi * I_{FAV}$	110	A	$f = >15$ Hz	
Effective forward current		$I_{FRMS}$	55	A		
Junction temperature		$T_{Jmax}$	175	$^{\circ}\text{C}$		
Storage temperature range		$T_{stg}$	- 50 to + 140	$^{\circ}\text{C}$		

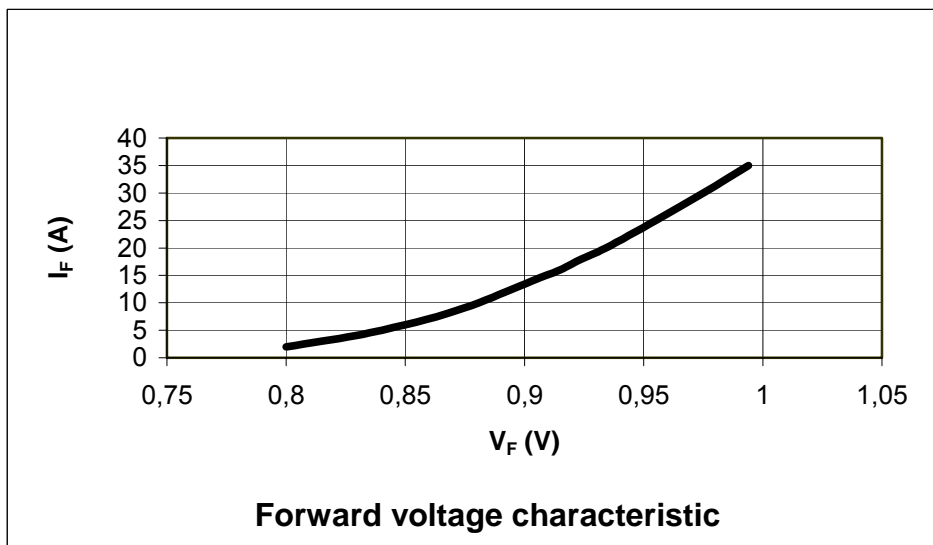
## Thermal resistance

Parameter	Symbol	Value	Unit
Junction to case	$R_{\theta JC}$	1.0	$^{\circ}C/W$

## Thermal characteristics



## Electrical characteristics (at $T_{amb} = 25^{\circ}C$ unless otherwise stated)



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## Electrical characteristics (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated)

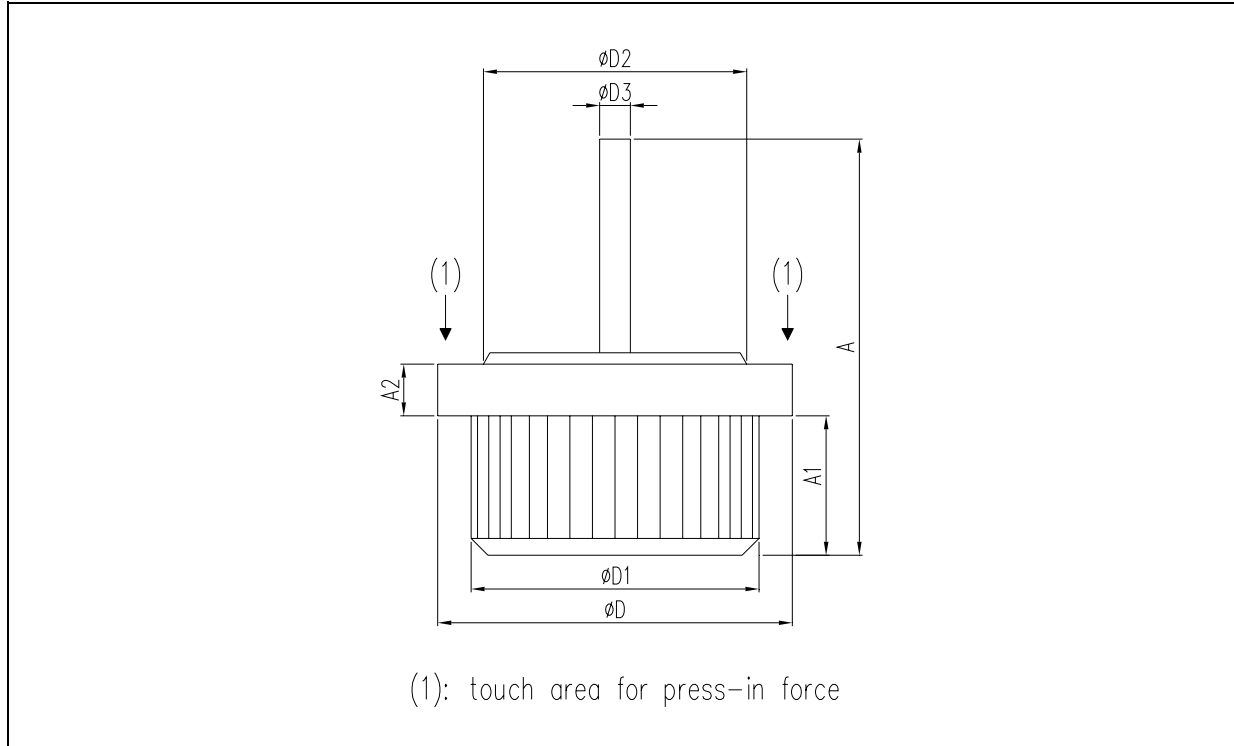
Parameter		Symbol	Min.	Typ.	Max.	Unit	Test conditions
Forward voltage	BYP57-75...800 BYP58-75...800	$V_F$	-	1.0	1.1	V	$I_F = 35\text{ A}$ , measuring time 10ms (half-sine wave)
Forward voltage (information values)	BYP57-75...800 BYP58-75...800	$V_F$	-	-	1.2	V	$I_F = 50\text{ A}$ ,
Reverse current	BYP57-75...150 BYP58-75...150	$I_{RRM}$	-	-	3	mA	$T_J = 140^{\circ}\text{C}$ , at $V_{RRM}$
	BYP57-200...800 BYP58-200...800		-	-	1.5		
	BYP57-75...400 BYP58-75...400	$I_{RRM}$	-	-	0.25	mA	at $V_{RRM}$
	BYP57-500...800 BYP58-500...800		-	-	0.1		
Threshold voltage (information value)		$V_{(FO)}$	-	0.66	-	V	$T_J = 175^{\circ}\text{C}$
Slope resistance (information value)		$r_F$	-	5.75	-	m $\Omega$	$T_J = 175^{\circ}\text{C}$

## Options: Electrical characteristics for parallel connecting

(at  $T_{amb} = 25^{\circ}\text{C}$  unless otherwise stated)

Option	Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
1	Forward voltage difference in one category of forward voltage	$\Delta V_F$	-	-	0.05	V	$I_F = 35\text{ A}$ , measuring time 10ms (half-sine wave)
2	Reverse current in one category of forward voltage (only for BYP57-300...800 and BYP58-300...800)	$I_R$	-	-	0.01	mA	at $V_{RRM}$

## Packaging details



## Package dimensions

Dimensions in millimeters are control dimensions, dimensions in inches are approximate

DIM	Millimeters			Inches		
	MIN	TYP	MAX	MIN	TYP	MAX
A	18,00	18,50	19,00	0,709	0,728	0,748
A1	5,90	6,10	6,30	0,232	0,240	0,248
A2	2,10	2,30	2,50	0,083	0,091	0,098
D	15,50	15,70	15,90	0,610	0,618	0,626
D1	12,72	12,77	12,82	0,501	0,503	0,505
D2	11,50	11,70	11,90	0,453	0,461	0,469
D3	1,33	1,36	1,39	0,052	0,054	0,055

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