

## Product Summary (Per Leg, @ T<sub>A</sub> = +25°C)

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F</sub> (V)	I <sub>R</sub> (μA)
600	10	1.5	10

## Features and Benefits

- Super-Fast Switching Capability
- Glass Passivated Die Construction
- Rating to 600V Peak Reverse Voltage
- High Current Capability
- Low Forward Voltage Drop
- Low Reverse Leakage Current
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](#) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

## Applications

- Switched mode power supplies
- High frequency DC to DC converters

## Mechanical Data

- Package: TO220AB
- Package Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Terminals: Finish—Matte Tin Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 2.0275 grams (Approximate)

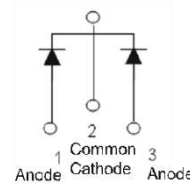
### TO220AB (Type WX)



Top View



Bottom View



Package Pinout Configuration

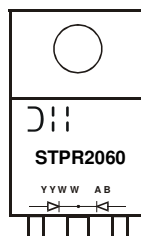
## Ordering Information (Note 4)

Part Number	Package	Packing	
		Qty.	Carrier
STPR2060	TO220AB (Type WX)	50 pcs	Tube

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information

### TO220AB (Type WX)



STPR2060 = Product Type Marking Code  
 = Manufacturer's Marking  
 YYWW = Date Code Marking  
 YY = Last Two Digits of Year (ex: 22 for 2022)  
 WW = Week Code (01 to 53)  
 AB = Foundry and Assembly Code

**Maximum Ratings** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>R</sub>	600	V
Average Rectified Output Current (Fig. 1) (Per Leg) (Total)	I <sub>O</sub>	10 20	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	125	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case (Notes 5, 6)	R <sub>θJC</sub>	2	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

**Electrical Characteristics** (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	V <sub>(BR)R</sub>	600	—	—	V	I <sub>R</sub> = 10μA
Forward Voltage (Note 8)	V <sub>F</sub>	—	—	1.50	V	I <sub>F</sub> = 10A, T <sub>J</sub> = +25°C
		—	—	1.40	V	I <sub>F</sub> = 10A, T <sub>J</sub> = +125°C
		—	—	1.70	V	I <sub>F</sub> = 20A, T <sub>J</sub> = +25°C
		—	—	1.60	V	I <sub>F</sub> = 20A, T <sub>J</sub> = +125°C
Reverse Leakage Current (Note 7)	I <sub>R</sub>	—	—	10 500	μA μA	V <sub>R</sub> = 600V, T <sub>J</sub> = +25°C V <sub>R</sub> = 600V, T <sub>J</sub> = +100°C
Typical Total Capacitance	C <sub>T</sub>	—	82	—	pF	V <sub>R</sub> = 4V, f = 1.0MHz
Reverse Recovery Time	t <sub>RR</sub>	—	—	50	ns	I <sub>F</sub> = 0.5A, I <sub>R</sub> = 1.0A, I <sub>RR</sub> = 0.25A

- Notes:
5. Thermal resistance test performed in accordance with JESD-51.
  6. The unit mounted on fin-type heatsink 32mm x 85mm x 24.1mm.
  7. Short duration pulse test used to minimize self-heating effect.
  8. 300μs pulse width, 2% duty cycle.

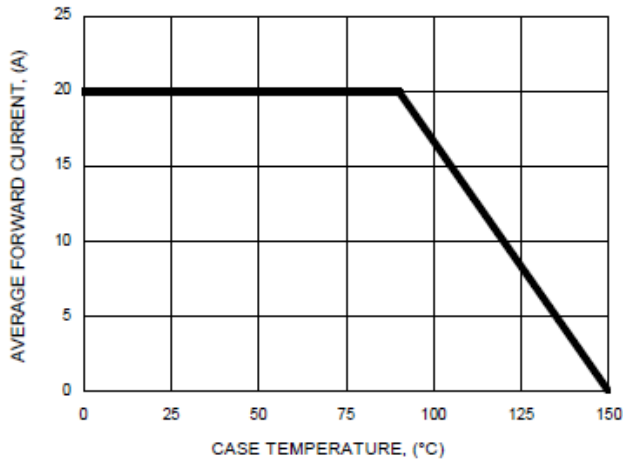


Fig. 1 FORWARD CURRENT DERATING CURVE

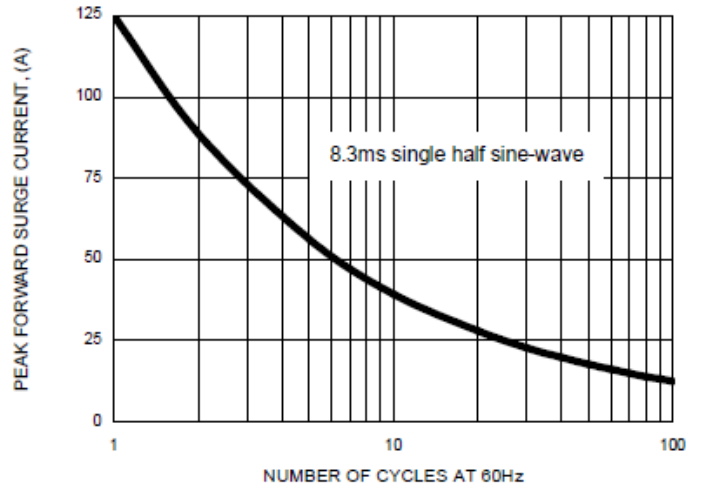


Fig. 2 MAXIMUM NON-REPETITIVE SURGE CURRENT

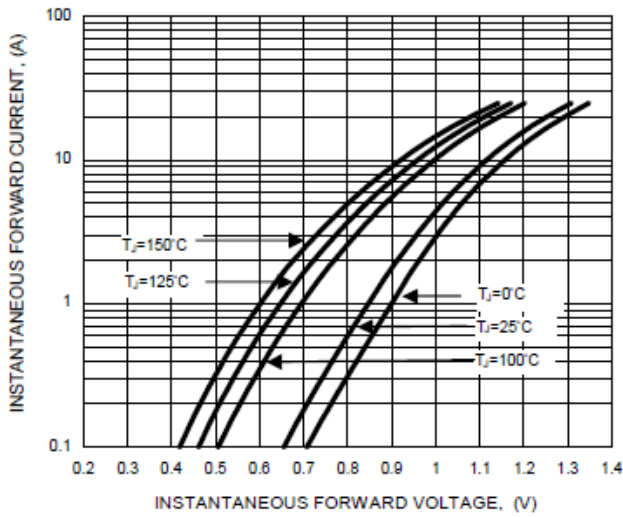


Fig. 3 TYPICAL FORWARD CHARACTERISTICS

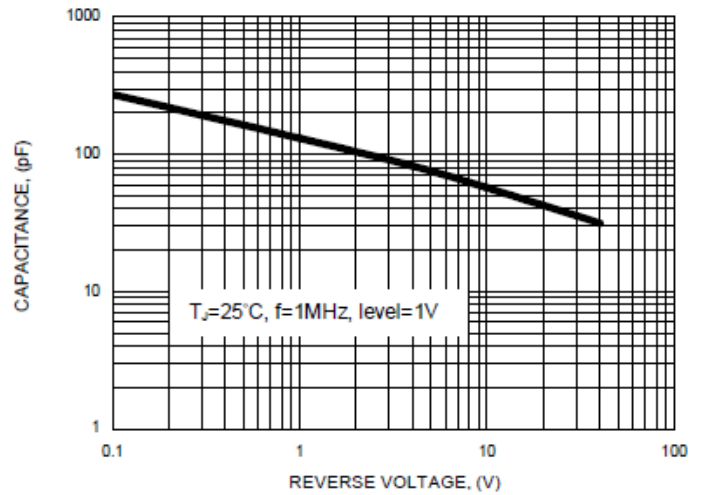


Fig. 4 TYPICAL TOTAL CAPACITANCE

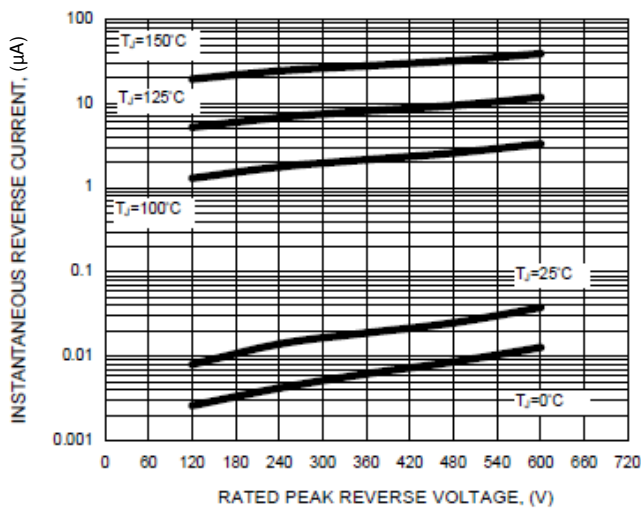
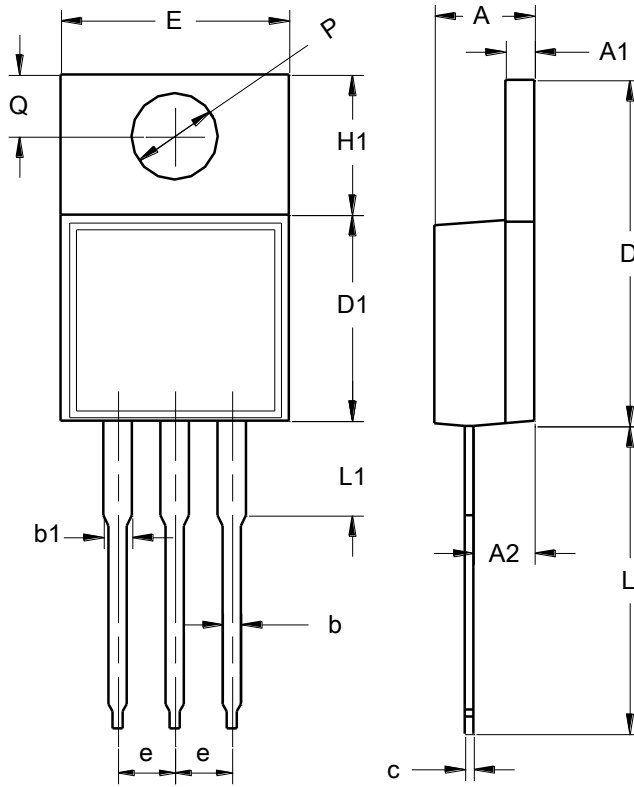


Fig. 5 TYPICAL REVERSE CHARACTERISTICS

## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### TO220AB (Type WX)



TO220AB (Type WX)		
Dim	Min	Max
A	3.56	4.83
A1	1.14	1.40
A2	2.03	2.92
b	0.51	1.14
b1	1.14	1.70
c	0.30	0.64
D	14.40	15.20
D1	8.26	9.28
E	9.65	10.67
e	2.29	2.79
H1	5.84	6.86
L	12.70	14.73
L1	--	4.20
PØ	3.53	4.09
Q	2.54	3.43
All Dimensions in mm		

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