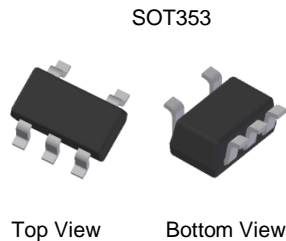


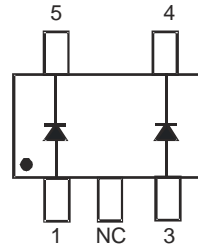
## Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- High Reverse Breakdown Voltage Rating
- ESD: MM ≤ 400V and HBM ≤ 4kV
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**



## Mechanical Data

- Case: SOT353
- Case Material: Molded Plastic, "Green" Molding Compound  
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Alloy 42 Leadframe  
(Lead Free Plating). Solderable per MIL-STD-202, Method 208(3)
- Polarity: See Diagram
- Weight: 0.006 grams (Approximate)

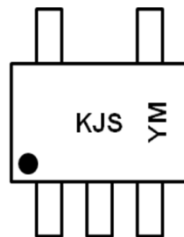


## Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
BAS21DWA-7	AEC-Q101	SOT353	3,000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) 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 <http://www.diodes.com/products/packages.html>.

## Marking Information



KJS = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: B= 2014)  
 M = Month (ex: 9 = September)

### Date Code Key

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Code	B	C	D	E	F	G	H	J	K	L	M	N

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

**Maximum Ratings** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	250	V
Working Peak Reverse Voltage	$V_{RWM}$	250	V
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	175	V
Forward Continuous Current (Note 6)	$I_F$	200	mA
Peak Repetitive Forward Current (Note 6)	$I_{FRM}$	625	mA
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\mu\text{s}$	$I_{FSM}$	4.0	A

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	$P_D$	285	mW
Thermal Resistance Junction to Ambient Air (Note 6)	$R_{\theta JA}$	435	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

**Electrical Characteristics** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 7)	$V_{(BR)R}$	250	—	—	V	$I_R = 100\mu\text{A}$
Forward Voltage	$V_F$	—	—	0.90 1.05 1.3	V	$I_F = 20\text{mA}$ $I_F = 100\text{mA}$ $I_F = 200\text{mA}$
Reverse Current (Note 7)	$I_R$	—	30 35	100 100	nA $\mu\text{A}$	$V_R = 200\text{V}$ $V_R = 200\text{V}, T_J = +150^\circ\text{C}$
Total Capacitance	$C_T$	—	0.7	5.0	pF	$V_R = 0\text{V}, f = 1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	—	—	50	ns	$I_F = I_R = 30\text{mA}$ , $I_{rr} = 3.0\text{mA}, R_L = 100\Omega$

Notes: 6. Part mounted on FR-4 substrate with pad dimensions 1 inch X 1 inch, 2oz, copper, single-sided, PC board.  
7. Short duration pulse test used to minimize self-heating effect.

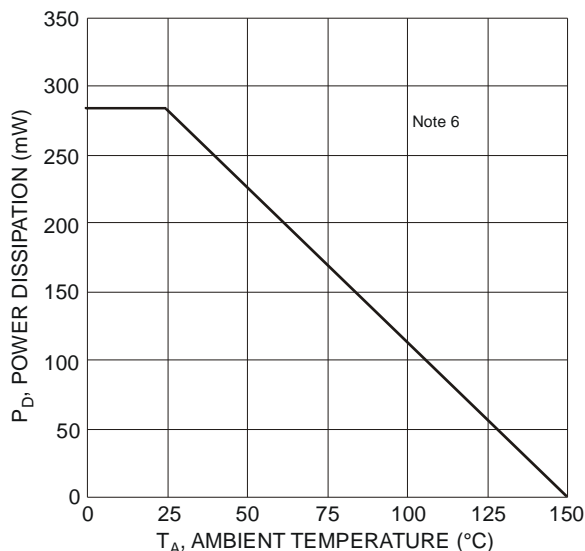


Figure 1 Power Derating Curve, Total Package

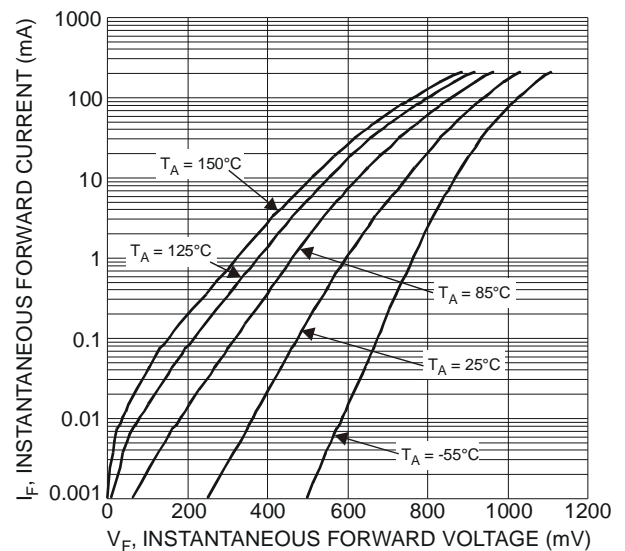


Figure 2 Typical Forward Characteristics

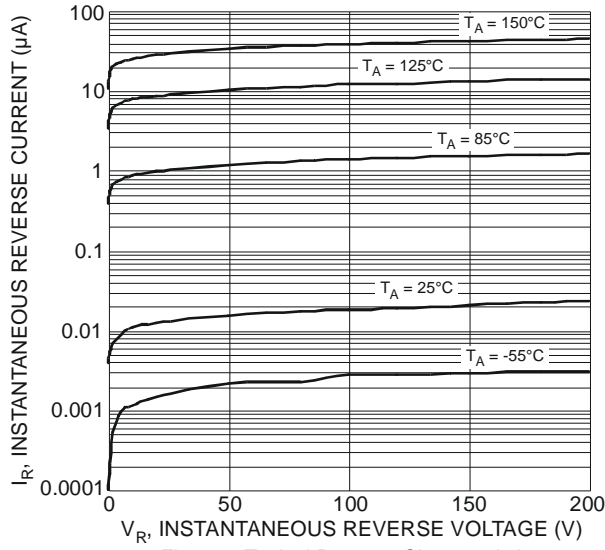


Figure 3 Typical Reverse Characteristics

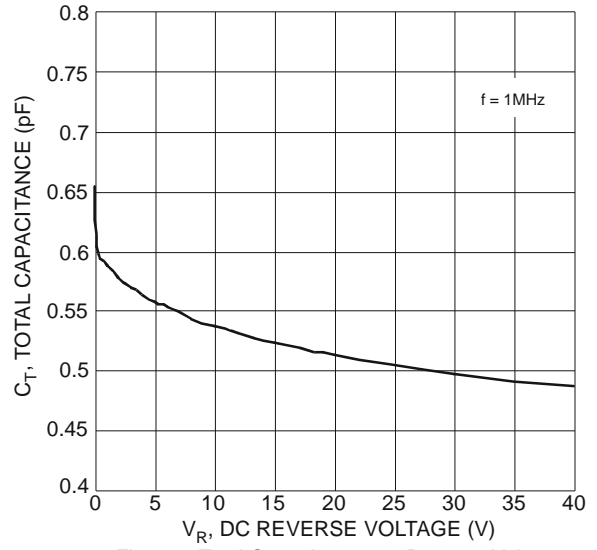
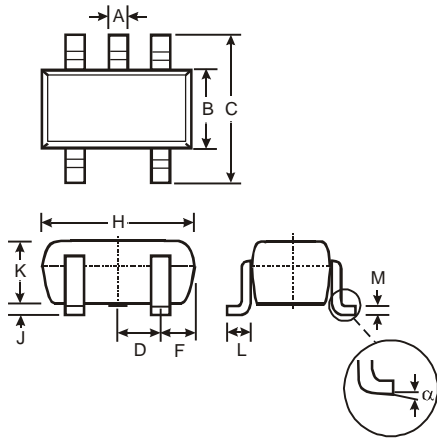


Figure 4 Total Capacitance vs. Reverse Voltage

**Package Outline Dimensions**

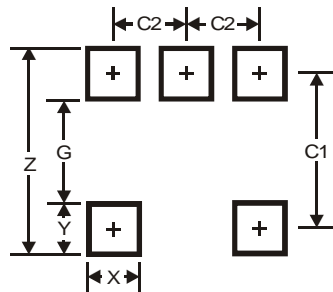
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



SOT353			
Dim	Min	Max	Typ
A	0.10	0.30	0.25
B	1.15	1.35	1.30
C	2.00	2.20	2.10
D	0.65 Typ		
F	0.40	0.45	0.425
H	1.80	2.20	2.15
J	0	0.10	0.05
K	0.90	1.00	1.00
L	0.25	0.40	0.30
M	0.10	0.22	0.11
α	0°	8°	-
All Dimensions in mm			

**Suggested Pad Layout**

Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



Dimensions	Value (in mm)
Z	2.5
G	1.3
X	0.42
Y	0.6
C1	1.9
C2	0.65

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