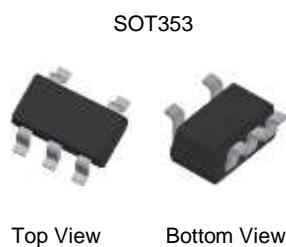


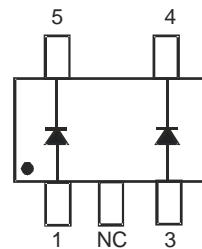
Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- High Reverse Breakdown Voltage Rating
- ESD: MM \leq 400V and HBM \leq 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
- PPAP Capable (Note 4)



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
- Polarity: See Diagram
- Weight: 0.006 grams (Approximate)



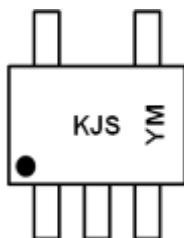
Ordering Information (Note 5)

Part Number	Compliance	Case	Packaging
BAS21DWA-7	AEC-Q101	SOT353	3,000/Tape & Reel
BAS21DWAQ-7	Automotive	SOT353	3,000/Tape & Reel

Notes:

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
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. Automotive products are AEC-Q101 qualified and are PPAP capable. Automotive, AEC-Q101 and standard products are electrically and thermally the same, except where specified. For more information, please refer to <https://www.diodes.com/quality/>.
5. 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: F = 2018)
 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 DC Blocking Voltage	V_{RWM} V_R	250	V
RMS Reverse Voltage	$V_{R(\text{RMS})}$	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

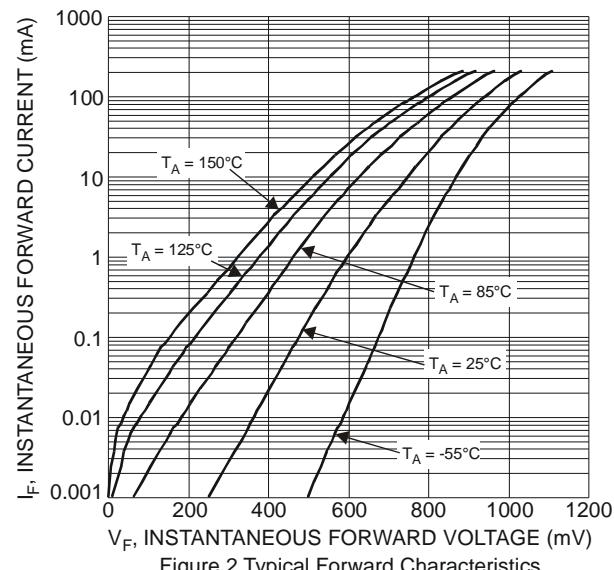
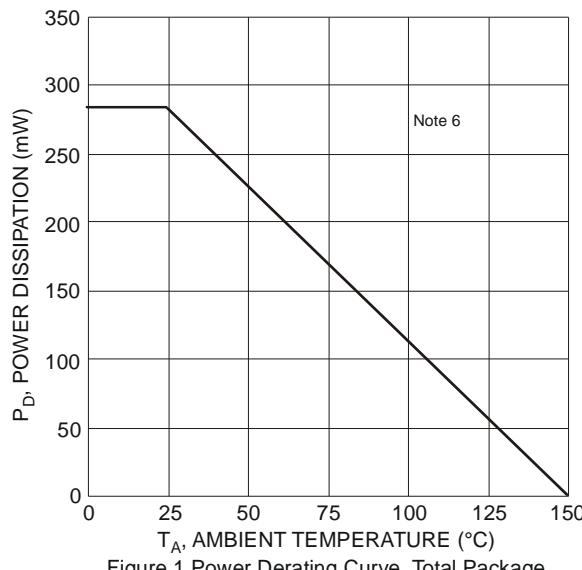
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	P_D	285	mW
Thermal Resistance Junction to Ambient Air (Note 6)	$R_{\theta JA}$	435	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°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 μA	$V_R = 200\text{V}$ $V_R = 200\text{V}, T_J = +150^\circ\text{C}$
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.



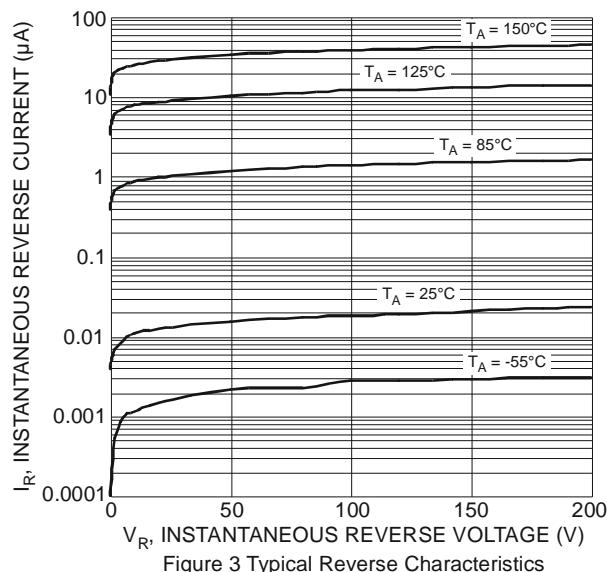


Figure 3 Typical Reverse Characteristics

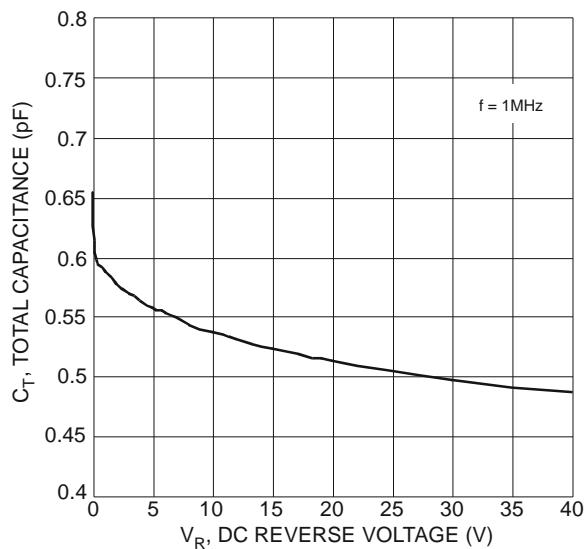
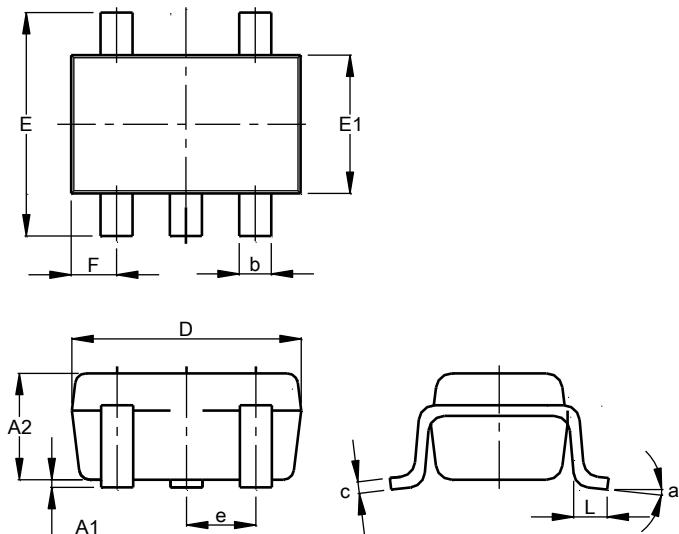


Figure 4 Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

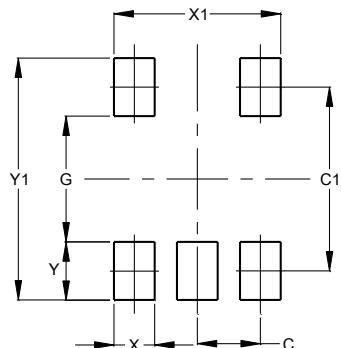
Please see <http://www.diodes.com/package-outlines.html> for the latest version.



SOT353			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.90	1.00	0.95
b	0.10	0.30	0.25
c	0.10	0.22	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
F	0.40	0.45	0.425
L	0.25	0.40	0.30
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

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



Dimensions	Value (in mm)
C	0.650
C1	1.900
G	1.300
X	0.420
X1	1.720
Y	0.600
Y1	2.500

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