

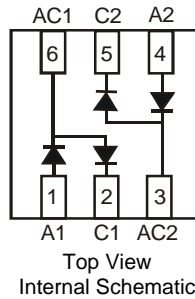
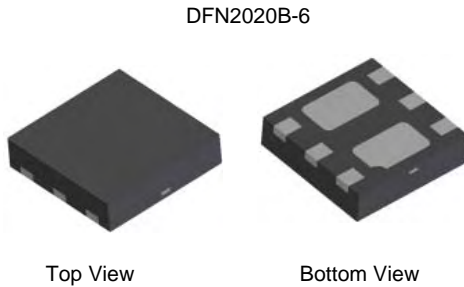
NEW PRODUCT

Features

- Fast Switching Speed
- Low Profile DFN Package (0.575mm typical thickness) is Much Thinner than Conventional SOT Style Packages
- Thermally Efficient DFN Package Features 500mW Power Dissipation Capability in a Compact 2.0 * 2.0mm Footprint
- Two "BAV99" Circuits In One Package
- **Lead Free/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**

Mechanical Data

- Case: DFN2020B-6
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: NiPdAu over Copper leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.006 grams (approximate)



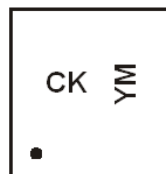
Pin 1 = A1 (anode 1, right below the notch indication)
 Pin 2 = C1 (cathode 1)
 Pin 3 = AC2 (internally connected to rectangular pad)
 Pin 4 = A2 (anode 2)
 Pin 5 = C2 (cathode 2)
 Pin 6 = AC1 (internally connected to the pad with a notch)

Ordering Information (Note 3)

Part Number	Case	Packaging
BAV99BRLP-7	DFN2020B-6	3000/Tape & Reel

- Notes:
1. No purposefully added lead.
 2. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.
 3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



CK = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: Y = 2011)
 M = Month (ex: 9 = September)

Date Code Key

Year	2011	2012	2013	2014	2015	2016	2017
Code	Y	Z	A	B	C	D	E

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°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V _{RM}	100	V
Peak Repetitive Reverse Voltage	V _{RRM}	75	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	53	V
Forward Continuous Current (Note 4)	I _{FM}	300	mA
Non-Repetitive Peak Forward Surge Current	I _{FSM}	@ t = 1.0μs	3.0
		@ t = 1.0ms	2.0
		@ t = 1.0s	0.5

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	P _D	500	mW
Thermal Resistance Junction to Ambient Air (Note 4)	R _{θJA}	250	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	V _{(BR)R}	75	—	V	I _R = 2.5μA
Forward Voltage	V _F	—	0.715	V	I _F = 1.0mA
			0.855		I _F = 10mA
			1.0		I _F = 50mA
			1.25		I _F = 150mA
Reverse Current (Note 5)	I _R	—	2.5	μA	V _R = 75V
			50	μA	V _R = 75V, T _J = 150°C
			30	μA	V _R = 20V, T _J = 150°C
			25	nA	V _R = 20V
Total Capacitance	C _T	—	2.0	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{rr}	—	4.0	ns	I _F = I _R = 10mA, I _{rr} = 0.1 x I _R , R _L = 100Ω

Notes: 4. Device mounted on FR-4 PCB, on minimum recommended, 2oz copper pad layout.
5. Short duration pulse test used to minimize self-heating effect.

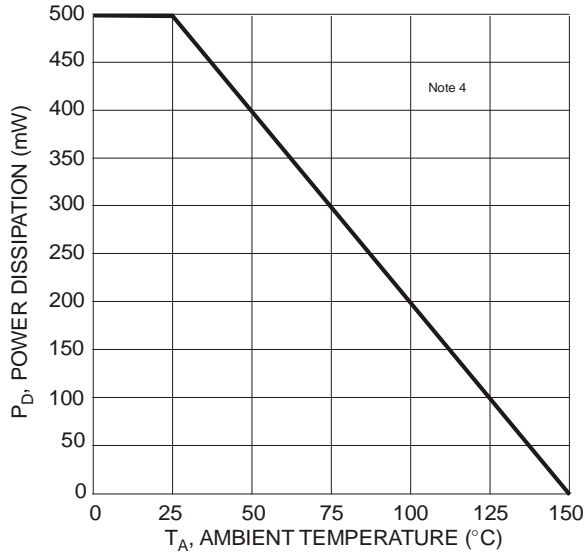


Fig. 1 Power Derating Curve, Total Package

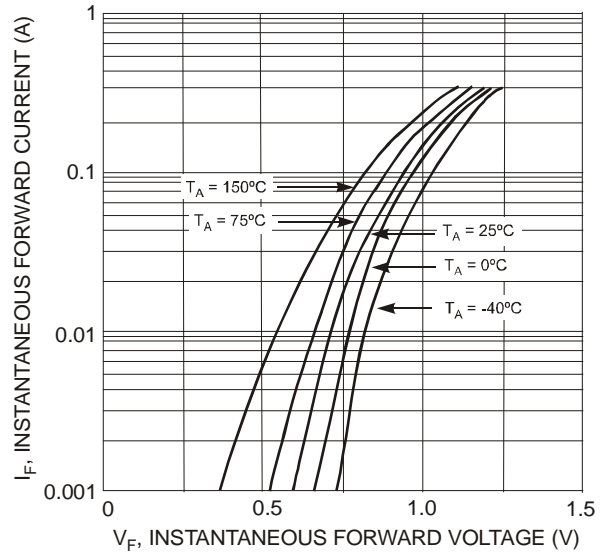


Fig. 2 Typical Forward Characteristics, Per Element

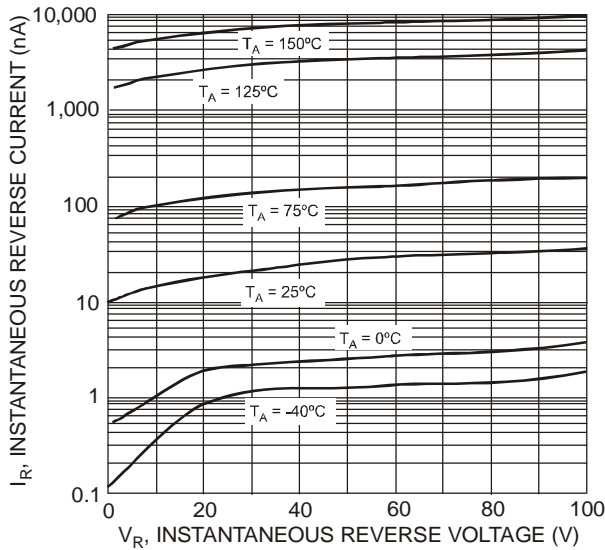


Fig. 3 Typical Reverse Characteristics, Per Element

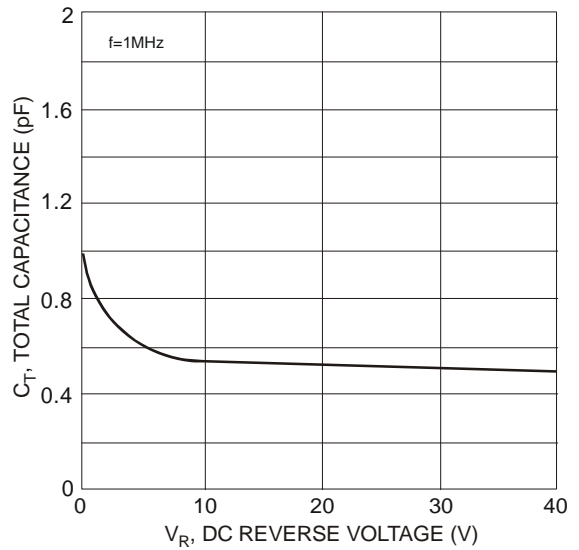
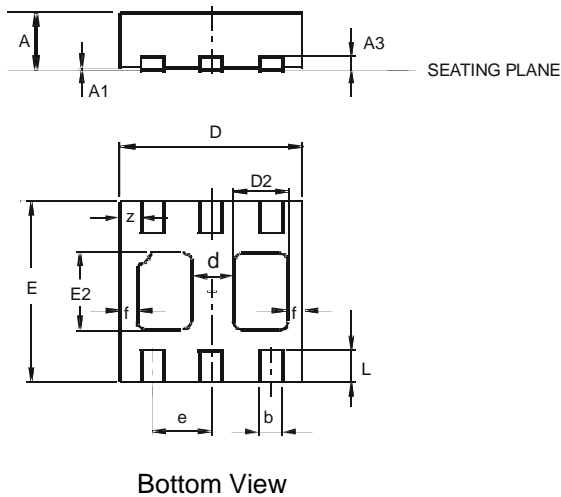


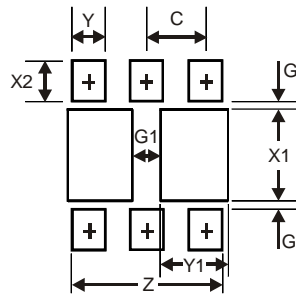
Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

Package Outline Dimensions



DFN2020B-6			
Dim	Min	Max	Typ
A	0.545	0.605	0.575
A1	0	0.05	0.02
A3	—	—	0.13
b	0.20	0.30	0.25
D	1.95	2.075	2.00
d	—	—	0.45
D2	0.50	0.70	0.60
e	—	—	0.65
E	1.95	2.075	2.00
E2	0.90	1.10	1.00
f	—	—	0.15
L	0.25	0.35	0.30
z	—	—	0.225
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	1.67
G	0.20
G1	0.40
X1	1.0
X2	0.45
Y	0.37
Y1	0.70
C	0.65

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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