

BYT51J-TAP Datasheet

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DiGi Electronics Part Number	BYT51J-TAP-DG
Manufacturer	Vishay General Semiconductor - Diodes Division
Manufacturer Product Number	BYT51J-TAP
Description	DIODE AVALANCHE 600V 1.5A SOD57
Detailed Description	Diode 600 V 1.5A Through Hole SOD-57

This model BYT51J-TAP is available at DiGi Electronics.

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Manufacturer Product Number:

BYT51J-TAP

Series:

-

Technology:

Avalanche

Current - Average Rectified (Io):

1.5A

Speed:

Standard Recovery >500ns, > 200mA (Io)

Current - Reverse Leakage @ Vr:

1 μ A @ 600 V

Mounting Type:

Through Hole

Supplier Device Package:

SOD-57

Base Product Number:

BYT51

Manufacturer:

Vishay General Semiconductor - Diodes Division

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

600 V

Voltage - Forward (Vf) (Max) @ If:

1.1 V @ 1 A

Reverse Recovery Time (trr):

4 μ s

Capacitance @ Vr, F:

-

Package / Case:

SOD-57, Axial

Operating Temperature - Junction:

-55°C ~ 175°C

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

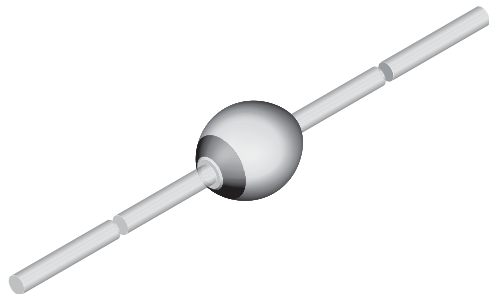
1 (Unlimited)

ECCN:

EAR99

**BYT51A, BYT51B, BYT51D, BYT51G, BYT51J, BYT51K, BYT51M**www.vishay.com

Vishay Semiconductors

Standard Avalanche Sinterglass Diode

949539

DESIGN SUPPORT TOOLS[click logo to get started](#)**3D**
Models
Available**FEATURES**

- Glass passivated junction
- Hermetically sealed package
- Low reverse current
- AEC-Q101 qualified
- Material categorization:
for definitions of compliance please see
www.vishay.com/doc?99912

**RoHS**
COMPLIANT
HALOGEN
FREE**APPLICATIONS**

- Rectification diode

MECHANICAL DATA**Case:** SOD-57**Terminals:** plated axial leads, solderable per MIL-STD-750, method 2026**Polarity:** color band denotes cathode end**Mounting position:** any**Weight:** approx. 369 mg**ORDERING INFORMATION** (Example)

DEVICE NAME	ORDERING CODE	TAPED UNITS	MINIMUM ORDER QUANTITY
BYT51M	BYT51M-TR	5000 per 10" tape and reel	25 000
BYT51M	BYT51M-TAP	5000 per ammopack	25 000

PARTS TABLE

PART	TYPE DIFFERENTIATION	PACKAGE
BYT51A	$V_R = 50\text{ V}; I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51B	$V_R = 100\text{ V}; I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51D	$V_R = 200\text{ V}; I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51G	$V_R = 400\text{ V}; I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51J	$V_R = 600\text{ V}; I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51K	$V_R = 800\text{ V}; I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51M	$V_R = 1000\text{ V}; I_{F(AV)} = 1.5\text{ A}$	SOD-57


BYT51A, BYT51B, BYT51D, BYT51G, BYT51J, BYT51K, BYT51M
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ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage = repetitive peak reverse voltage	See electrical characteristics	BYT51A	$V_R = V_{RRM}$	50	V
		BYT51B	$V_R = V_{RRM}$	100	V
		BYT51D	$V_R = V_{RRM}$	200	V
		BYT51G	$V_R = V_{RRM}$	400	V
		BYT51J	$V_R = V_{RRM}$	600	V
		BYT51K	$V_R = V_{RRM}$	800	V
BYT51M	$V_R = V_{RRM}$	1000	V		
Peak forward surge current	$t_p = 10\text{ ms}$, half sine wave		I_{FSM}	50	A
Repetitive peak forward current			I_{FRM}	9	A
Average forward current	$l = 10\text{ mm}$		$I_{F(AV)}$	1.5	A
	On PC board		$I_{F(AV)}$	1	A
Junction and storage temperature range			$T_J = T_{stg}$	-55 to +175	$^{\circ}\text{C}$
Non repetitive reverse avalanche energy	$I(BR)R = 1\text{ A}$		ER	20	mJ

MAXIMUM THERMAL RESISTANCE ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Junction ambient	Lead length $l = 10\text{ mm}$, $T_L = \text{constant}$	R_{thJA}	45	K/W
	On PC board with spacing 25 mm	R_{thJA}	100	K/W

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 1\text{ A}$	V_F	-	0.95	1.1	V
	$I_F = 1\text{ A}$, $T_J = 175\text{ }^{\circ}\text{C}$	V_F	-	-	1	V
Reverse current	$V_R = V_{RRM}$	I_R	-	-	1	μA
	$V_R = V_{RRM}$, $T_J = 150\text{ }^{\circ}\text{C}$	I_R	-	-	100	μA
Reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $i_R = 0.25\text{ A}$	t_{rr}	-	-	4	μs

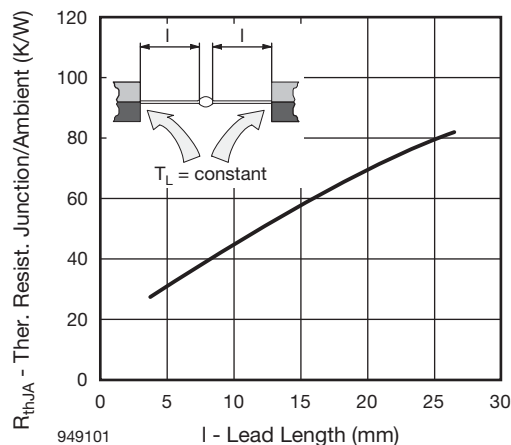
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typ. Thermal Resistance vs. Lead Length

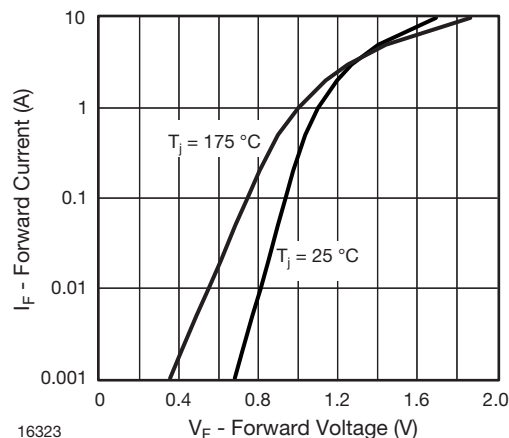


Fig. 2 - Forward Current vs. Forward Voltage



BYT51A, BYT51B, BYT51D, BYT51G, BYT51J, BYT51K, BYT51M

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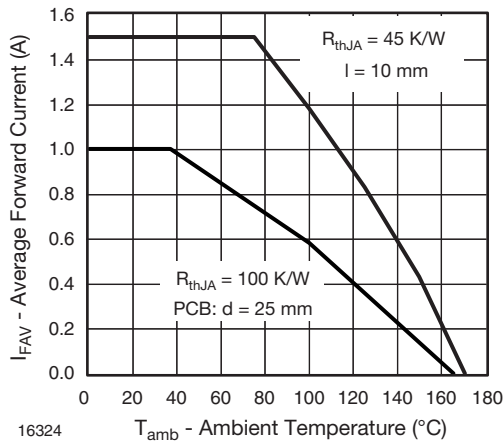


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

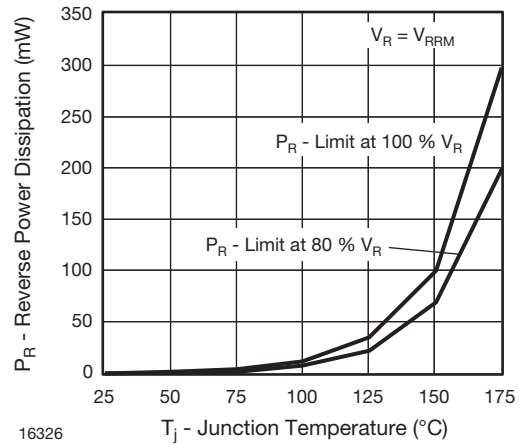


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

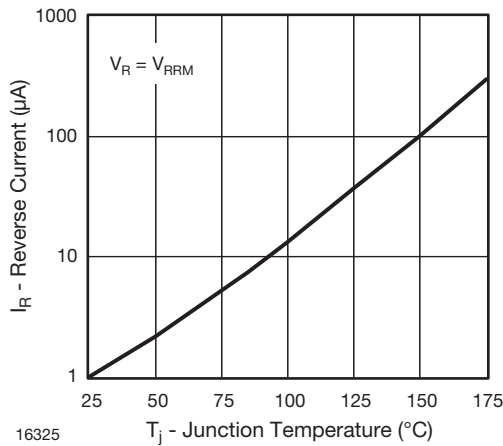


Fig. 4 - Reverse Current vs. Junction Temperature

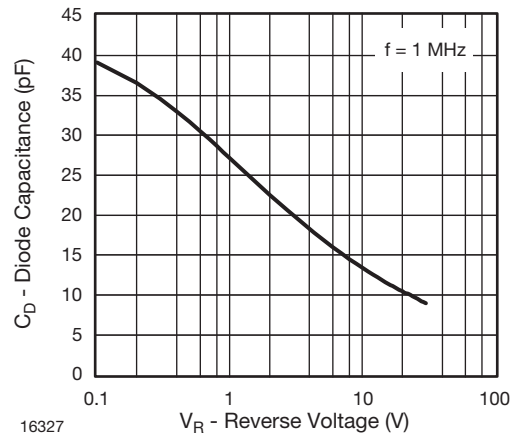
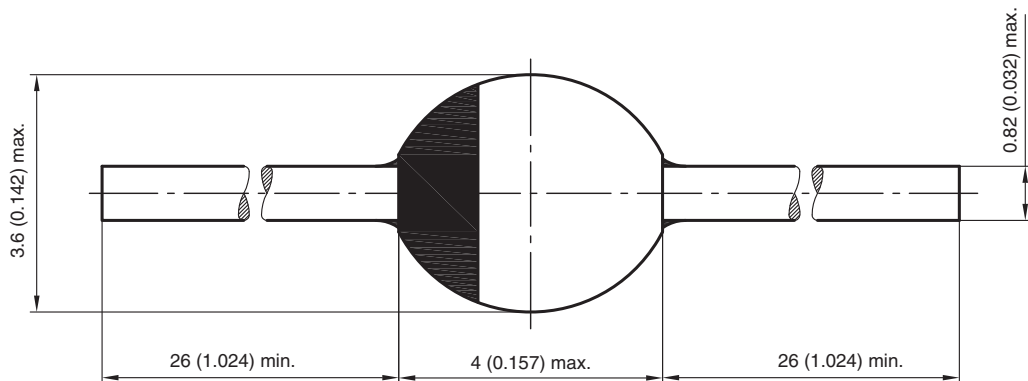


Fig. 6 - Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): **SOD-57**



20543
Rev. 3 - Date: 09.February 2005
Document no.:6.563-5006.3-4



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