

Product Summary

- $V_R = 40V$
- $I_F = 2A$

Description and Applications

A surface mount Schottky Barrier Diode featuring low forward voltage drop suitable for high frequency rectification and reverse voltage protection.

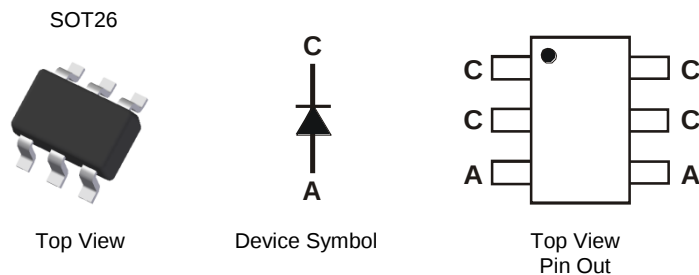
- Mobiles
- DC-DC converters
- High frequency rectification

Features and Benefits

- High Current Capability
- Low Forward Voltage
- Fast Recovery Time
- Small Package Size
- **Totally Lead-Free & Fully 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](mailto:contact@diodes.com) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>**

Mechanical Data

- Package: SOT26
- Package 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 Copper Leadframe; (Lead-Free Plating) Solderable per MIL-STD-202, Method 208 (e3)
- Weight: 0.016 grams (Approximate)

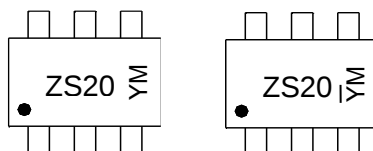


Ordering Information (Note 4)

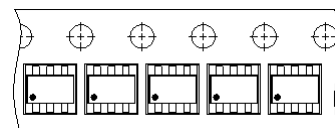
Part Number	Package	Packing	
		Qty.	Carrier
ZHCS2000TA	SOT26	3,000	Tape & Reel

- 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. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



ZS20 = Product Type Marking Code
YM = Date Code Marking
Y or $\bar{Y}$ = Year (ex: J = 2022)
M = Month (ex: 9 = September)



Date Code Key

Year	2011		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Code	Y		J	K	L	M	N	O	P	R	S	T

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

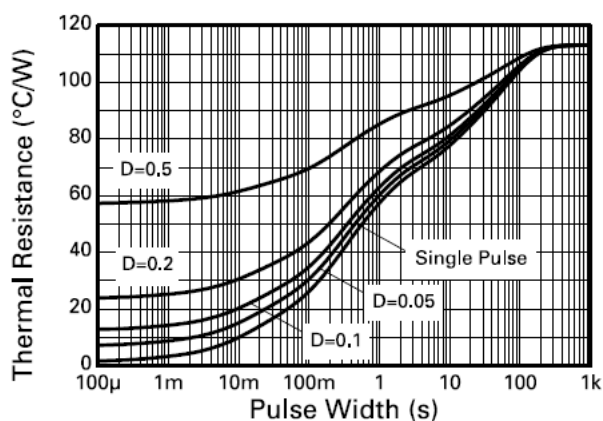
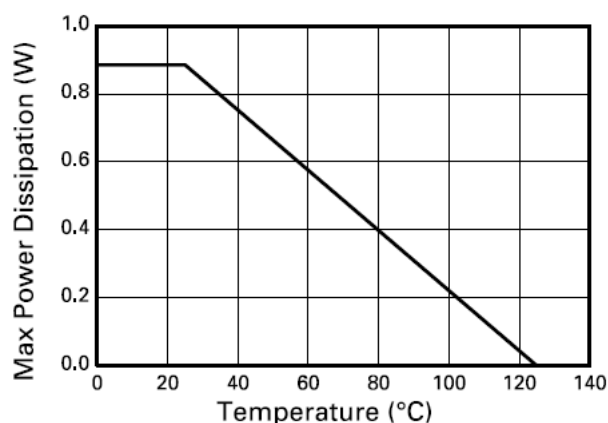
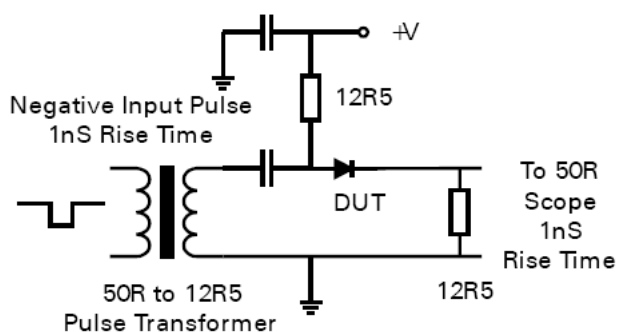
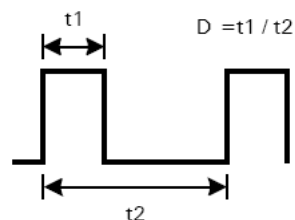
Maximum Ratings (@T_A = +25°C unless otherwise specified.)

Characteristic	Symbol	Value	Units
Continuous Reverse Voltage	V _R	40	V
Continuous Forward Current	I _F	2	A
Average Peak Forward Current; D.C. = 50%	I _{FAV}	4	A
Non Repetitive Forward Current	I _{FSM}	20	A
		10	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation, T _A = +25°C	P _D	1.1	W
Thermal Resistance, Junction to Ambient	R _{θJA}	113 73	—
Junction Temperature	T _J	+125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

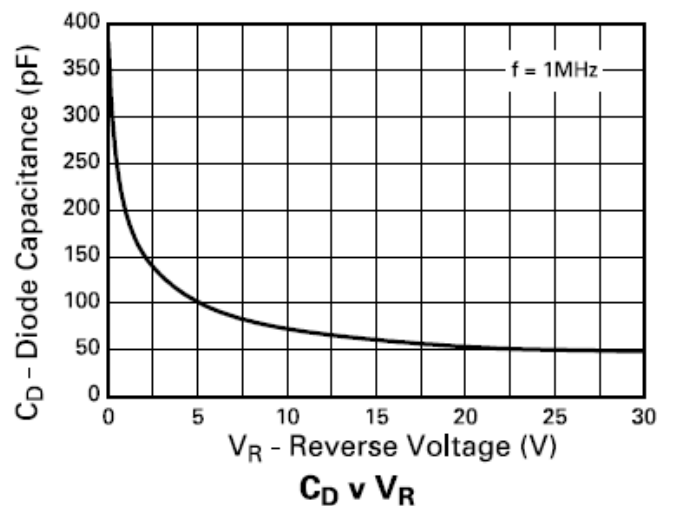
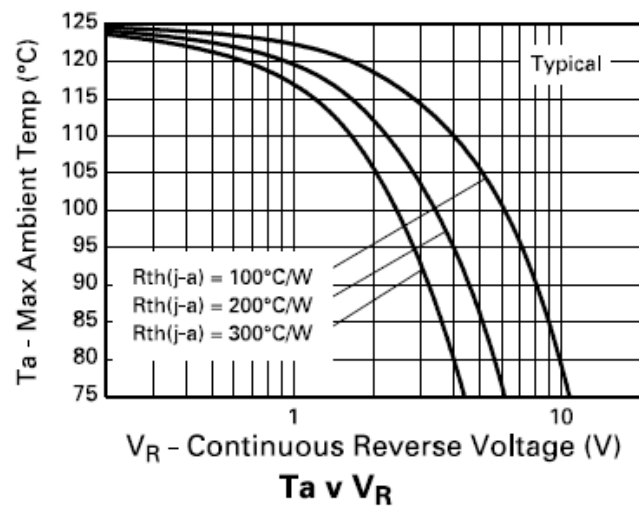
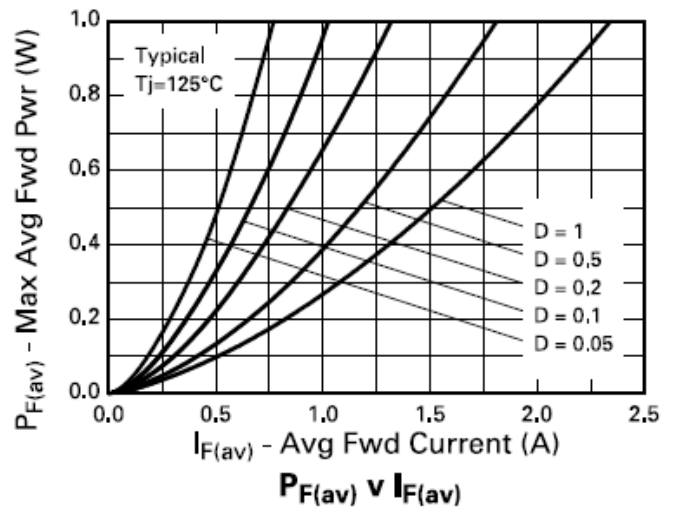
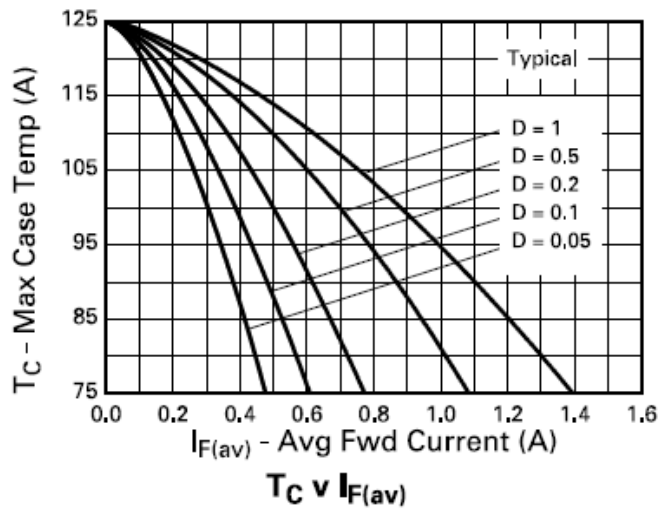
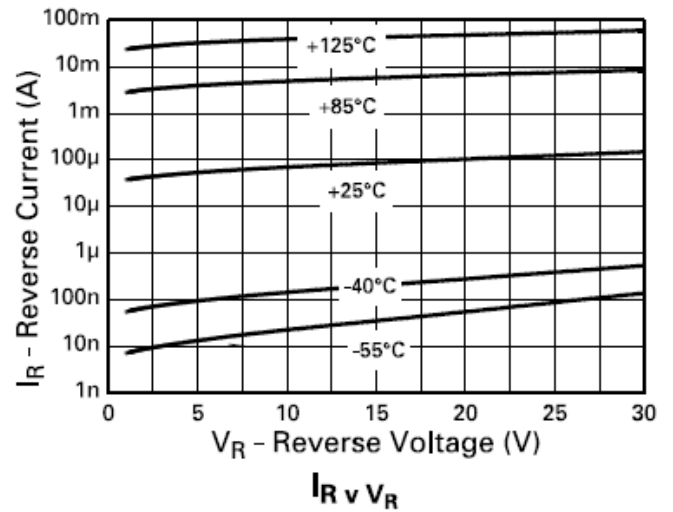
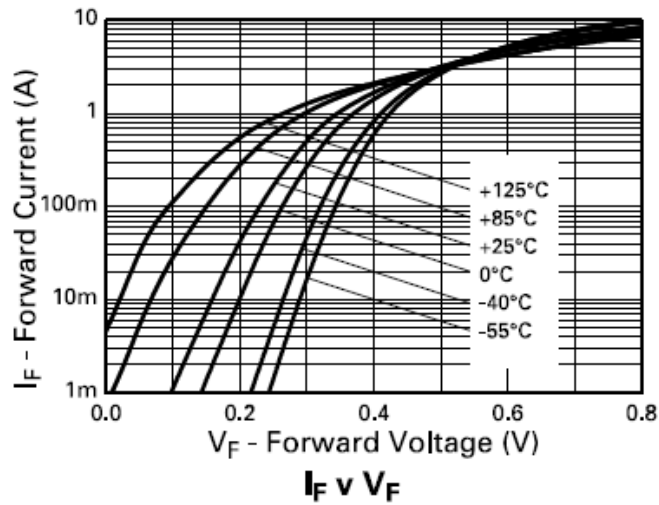
Notes: 5. For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.
 6. For a device surface mounted on FR4 PCB measured at t ≤ 5 secs.


Transient Thermal Impedance

Derating Curve

Reverse Recovery Time Circuit

Duty Cycle

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	V _{(BR)R}	40	—	—	V	I _R = 1mA
Forward Voltage (Note 7)	V _F	—	290	325	mV	I _F = 500mA
		—	340	385		I _F = 1000mA
		—	380	445		I _F = 1500mA
		—	420	500		I _F = 2000mA
		—	485	615		I _F = 3000mA
		—	420	-		I _F = 2000mA, T _A = +100°C
Reverse Current	I _R	—	160	300	μA	V _R = 30V
Diode Capacitance	C _D	—	50	—	pF	f = 1MHz, V _R = 25V
Reverse Recovery Time	t _{rr}	—	5.5	—	ns	Switched from I _F = 500mA to I _R = 500mA Measured @ I _R = 50mA

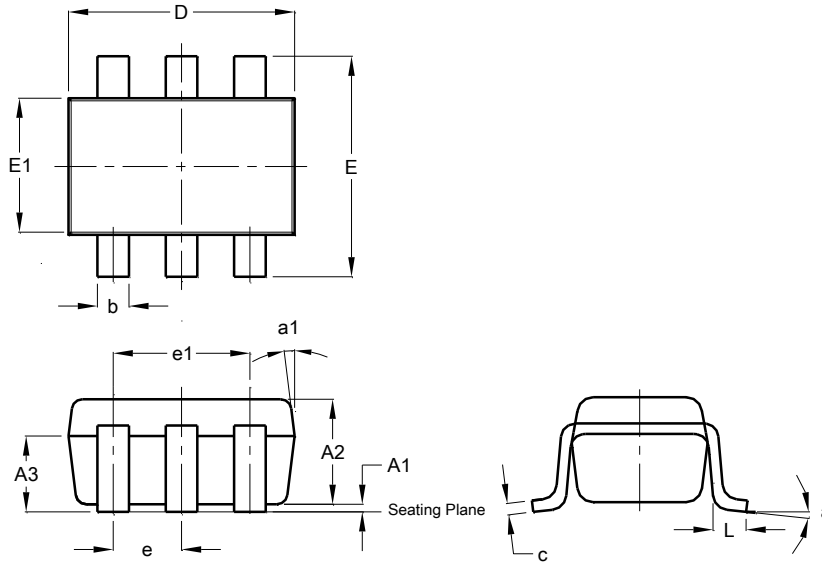
Note: 7. Measured under pulsed conditions. Pulse width = 300μs. Duty cycle ≤ 2%.



Package Outline Dimensions

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

SOT26

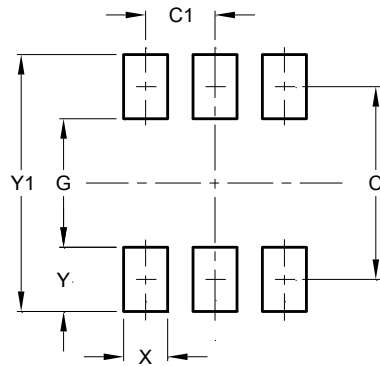


SOT26			
Dim	Min	Max	Typ
A1	0.013	0.10	0.05
A2	1.00	1.30	1.10
A3	0.70	0.80	0.75
b	0.35	0.50	0.38
c	0.10	0.20	0.15
D	2.90	3.10	3.00
e	-	-	0.95
e1	-	-	1.90
E	2.70	3.00	2.80
E1	1.50	1.70	1.60
L	0.35	0.55	0.40
a	-	-	8°
a1	-	-	7°
All Dimensions in mm			

Suggested Pad Layout

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

SOT26



Dimensions	Value (in mm)
C	2.40
C1	0.95
G	1.60
X	0.55
Y	0.80
Y1	3.20

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