

40V SURFACE MOUNT SCHOTTKY BARRIER DIODE
Product Summary

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

Description and Applications

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

- Mobile Telecomms
- DC – DC Converters
- High Frequency Rectification

Features and Benefits

- High current capability
- Low Forward Voltage
- Fast Recovery Time
- Small Package Size
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

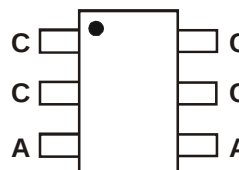
- Case: SOT26
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Copper leadframe (Lead Free Plating) Solderable per MIL-STD-202, Method 208
- Weight: 0.016 grams (approximate)



Top View



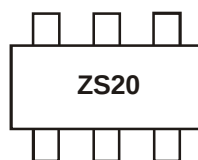
Device Symbol


 Top View
Pin Out

Ordering Information (Note 1)

Device	Packaging	Shipping
ZHCS2000TA	SOT26	3000/Tape & Reel

Notes: 1. For Packaging Details, go to our website at <http://www.diodes.com>.

Marking Information


ZS20 = Product Type Marking Code

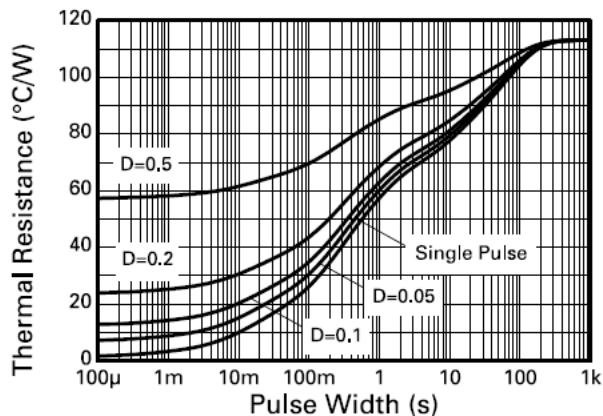
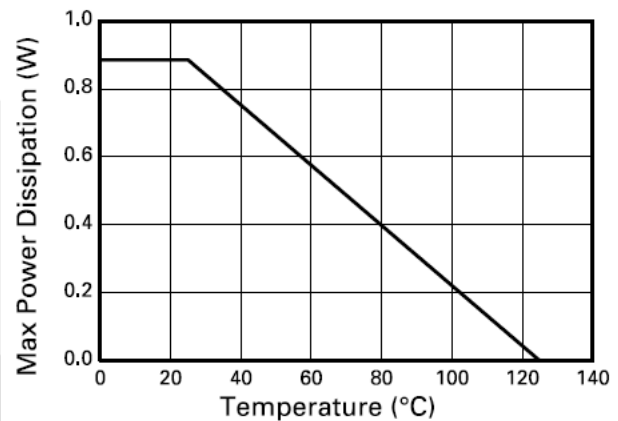
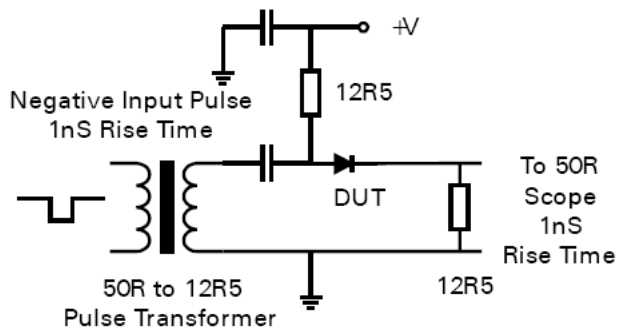
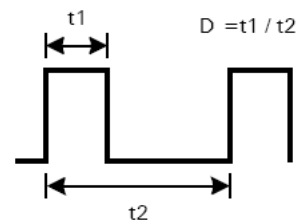
Maximum Ratings @T_A = 25°C unless otherwise specified

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

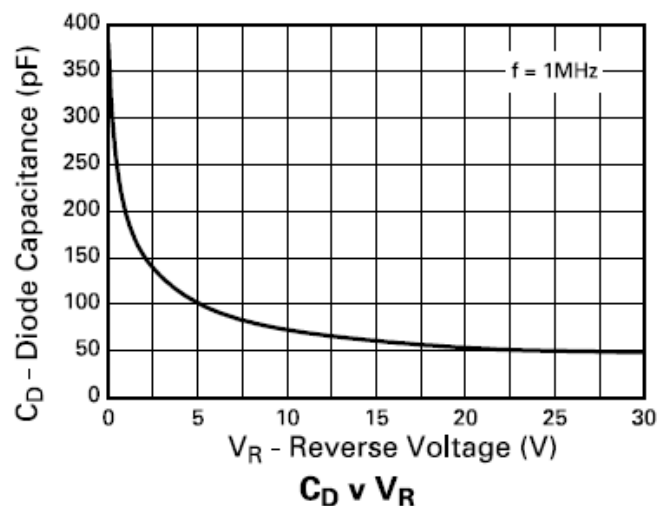
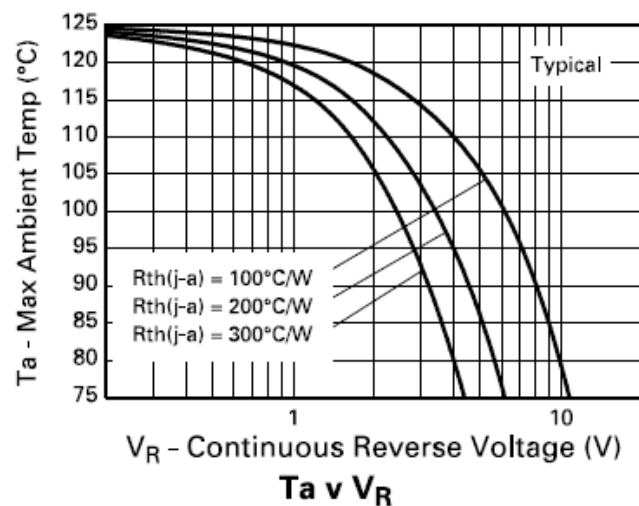
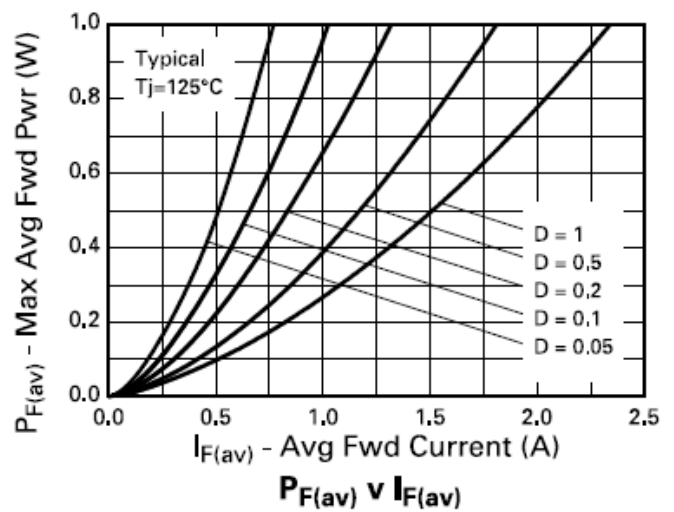
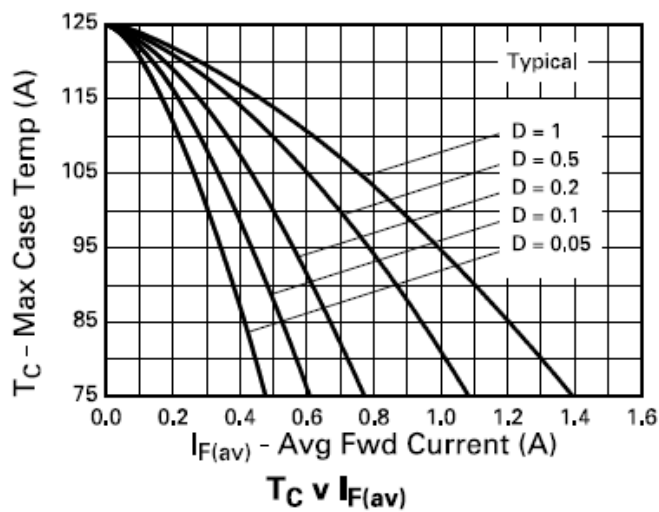
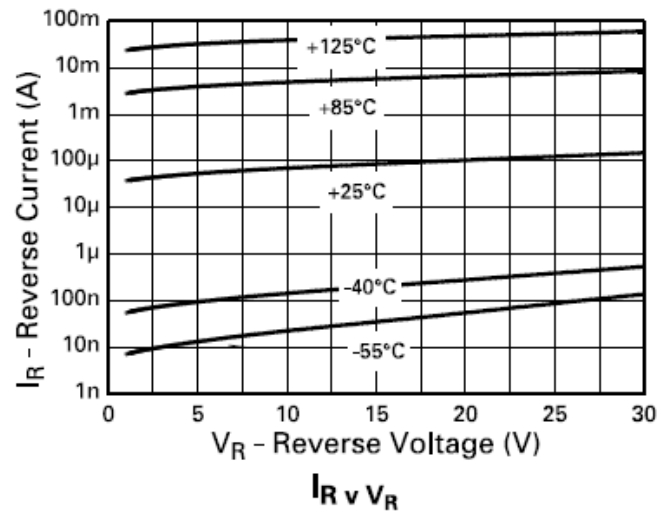
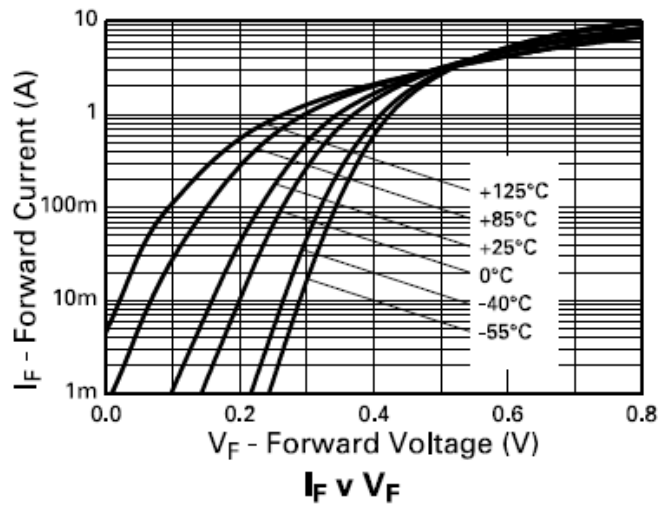
Notes: 2. For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.
 3. For a device surface mounted on FR4 PCB measured at t ≤ 5 secs.


Transient Thermal Impedance

Derating Curve

Reverse Recovery Time Circuit

Duty Cycle

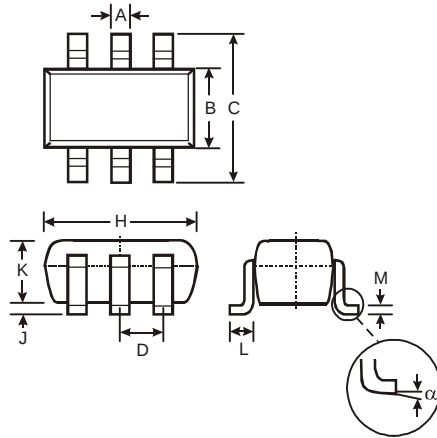
Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	V _{(BR)R}	40	-	-	V	I _R = 1mA
Forward Voltage (Note 4)	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	trr	-	5.5	-	ns	Switched from I _F = 500mA to I _R = 500mA Measured @ I _R = 50mA

Notes: 4. Measured under pulsed conditions. Pulse width = 300μs. Duty cycle ≤ 2%.

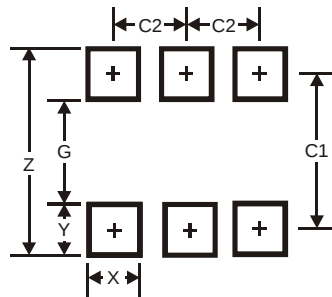


Package Outline Dimensions



SOT26			
Dim	Min	Max	Typ
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	—	—	0.95
H	2.90	3.10	3.00
J	0.013	0.10	0.05
K	1.00	1.30	1.10
L	0.35	0.55	0.40
M	0.10	0.20	0.15
α	0°	8°	—
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	3.20
G	1.60
X	0.55
Y	0.80
C1	2.40
C2	0.95

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