

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.

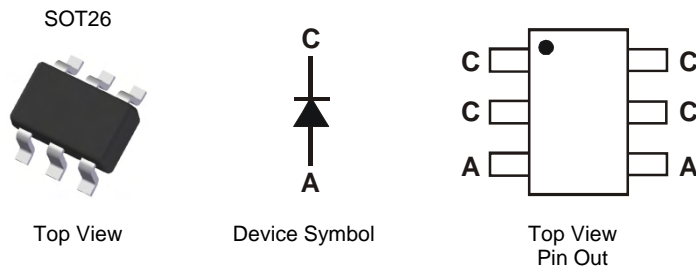
- Mobile Telecomms
- DC – DC Converters
- High Frequency Rectification

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)

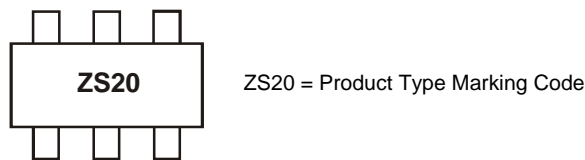


Ordering Information (Note 1)

Device	Packaging	Shipping
ZHCS2000TA	SOT26	3000/Tape & Reel

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

Marking Information



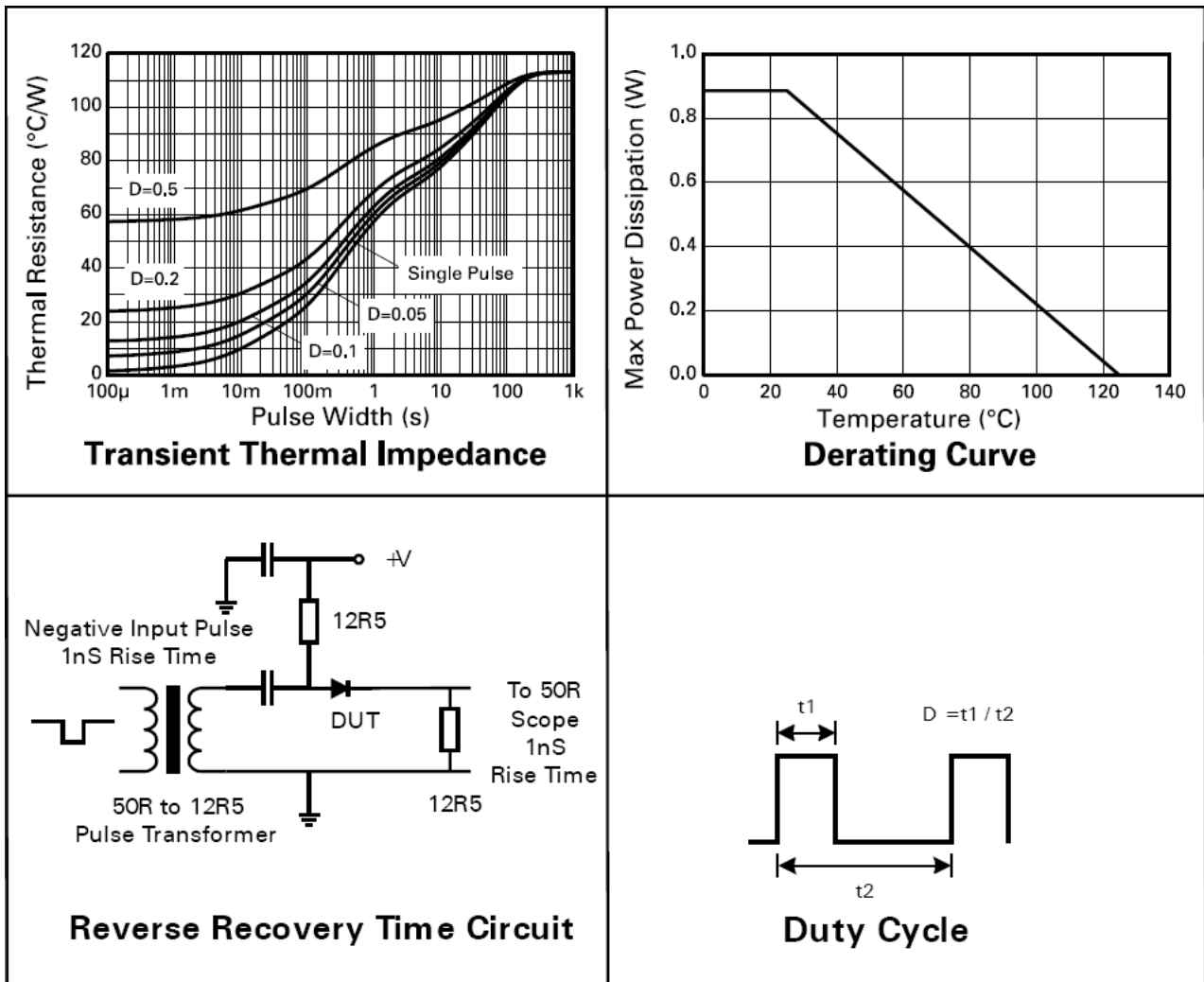
Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

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		$t \leq 100\mu\text{s}$	A
		$t \leq 10\text{ms}$	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation, $T_A = 25^\circ\text{C}$	P_D	1.1	W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	(Note 2)	113
		(Note 3)	73
Junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

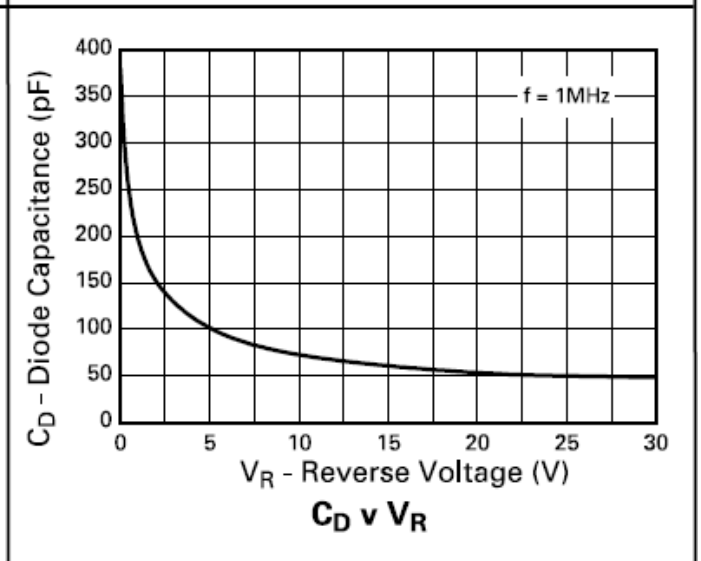
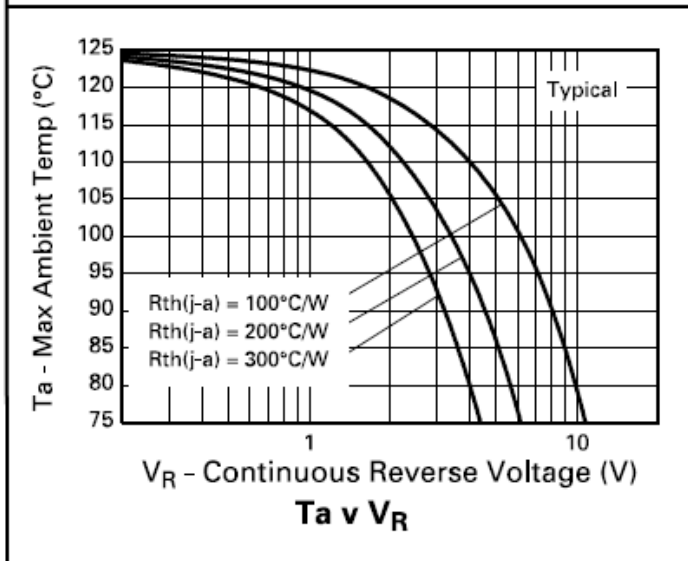
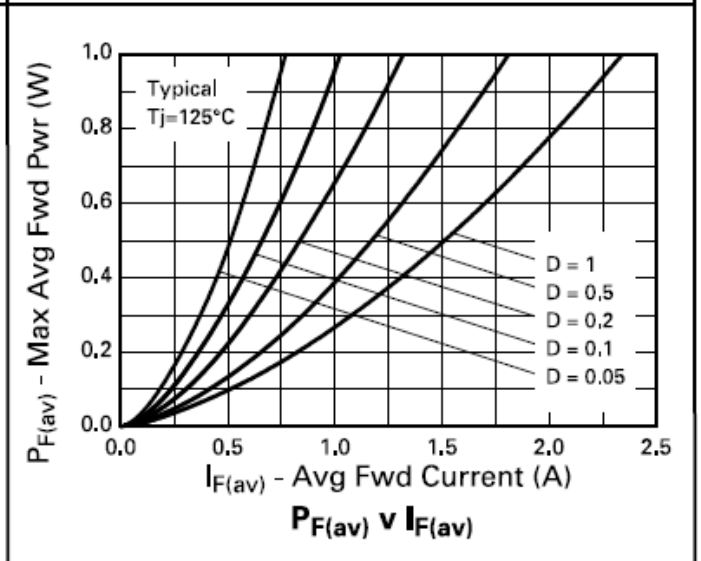
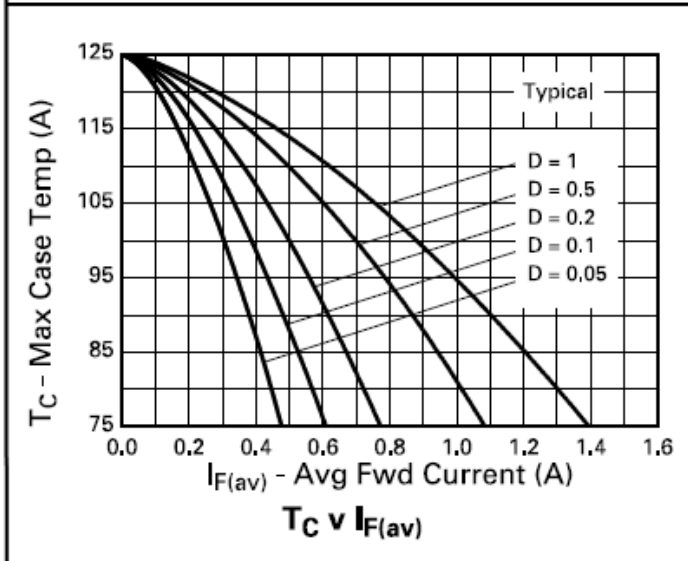
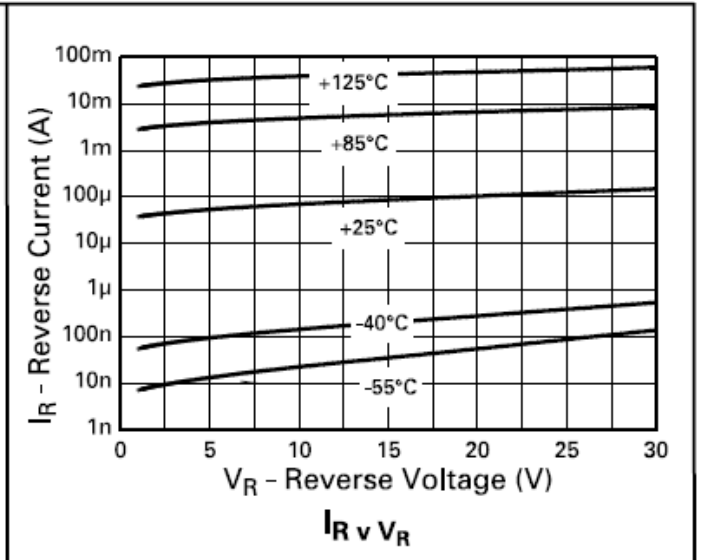
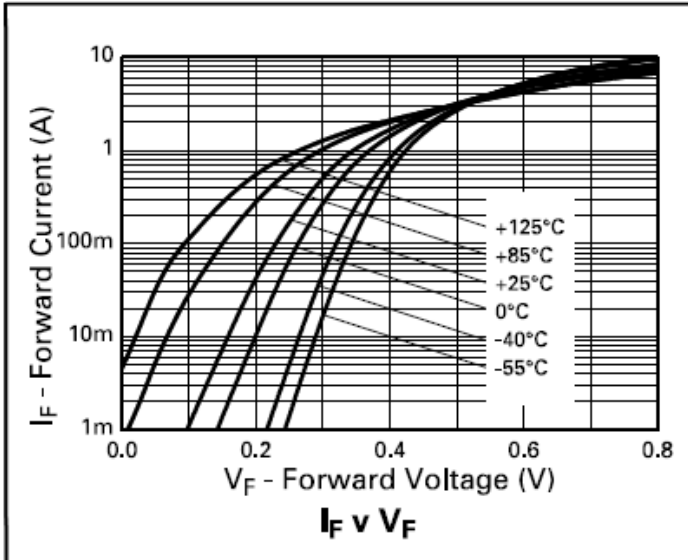
Notes: 2. For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.
 3. For a device surface mounted on FR4 PCB measured at $t \leq 5$ secs.



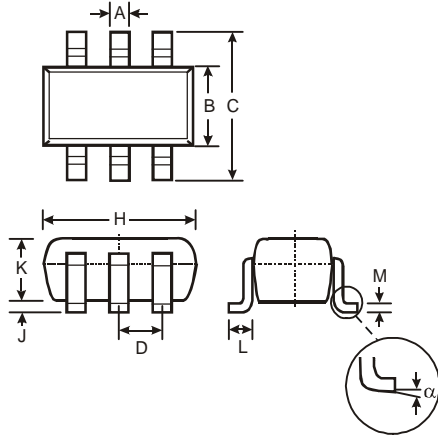
Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	$V_{(BR)R}$	40	-	-	V	$I_R = 1\text{mA}$
Forward Voltage (Note 4)	V_F	-	290	325	mV	$I_F = 500\text{mA}$
		-	340	385		$I_F = 1000\text{mA}$
		-	380	445		$I_F = 1500\text{mA}$
		-	420	500		$I_F = 2000\text{mA}$
		-	485	615		$I_F = 3000\text{mA}$
		-	420	-		$I_F = 2000\text{mA}, T_A = 100^\circ\text{C}$
Reverse Current	I_R	-	160	300	μA	$V_R = 30\text{V}$
Diode Capacitance	C_D	-	50	-	pF	$f = 1\text{MHz}, V_R = 25\text{V}$
Reverse Recovery Time	t_{rr}	-	5.5	-	ns	Switched from $I_F = 500\text{mA}$ to $I_R = 500\text{mA}$ Measured @ $I_R = 50\text{mA}$

Notes: 4. Measured under pulsed conditions. Pulse width = $300\mu\text{s}$. Duty cycle $\leq 2\%$.

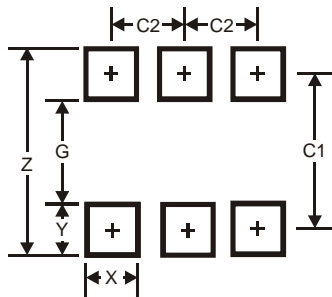


Package Outline Dimensions



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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