

Product Summary

- $V_R = 40V$
- $I_F = 1A$
- $I_R = 50\mu A$

Description and Applications

- DC – DC Converters
- Mobile Telecomms
- PCMCIA & SCSI

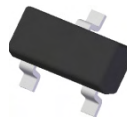
Features and Benefits

- High current capability ($I_F = 1A$)
- Low V_F
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOT23
- 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 Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Weight: 0.0089 grams (approximate)

SOT23



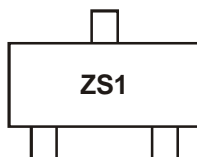
Top View

Ordering Information (Note 1)

Device	Packaging	Shipping
ZHCS1000TA	SOT23	3000/Tape & Reel

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

Marking Information



ZS1 = Product Type Marking Code

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	1	A	
Forward Voltage @ $I_F = 1\text{A}$ (typ)	V_F	425	mV	
Average Peak Forward Current; D.C. = 50%	I_{FAV}	1750	mA	
Non Repetitive Forward Current	I_{FSM}	$t \leq 100\mu\text{s}$	12	A
		$t \leq 10\text{ms}$	5.2	A

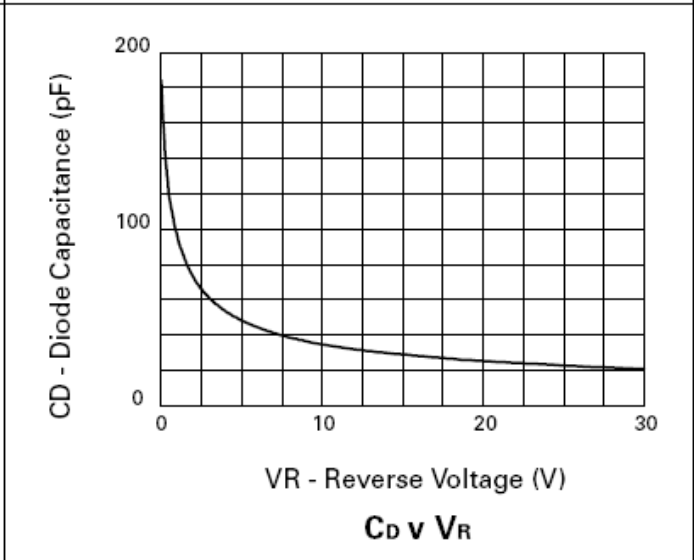
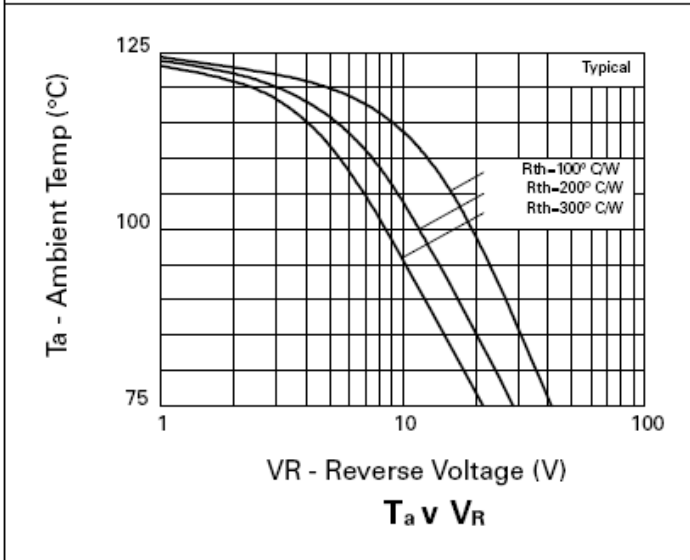
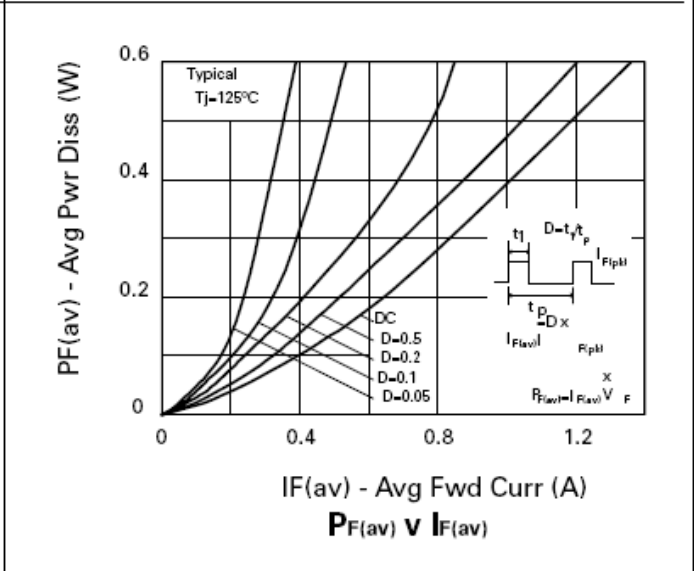
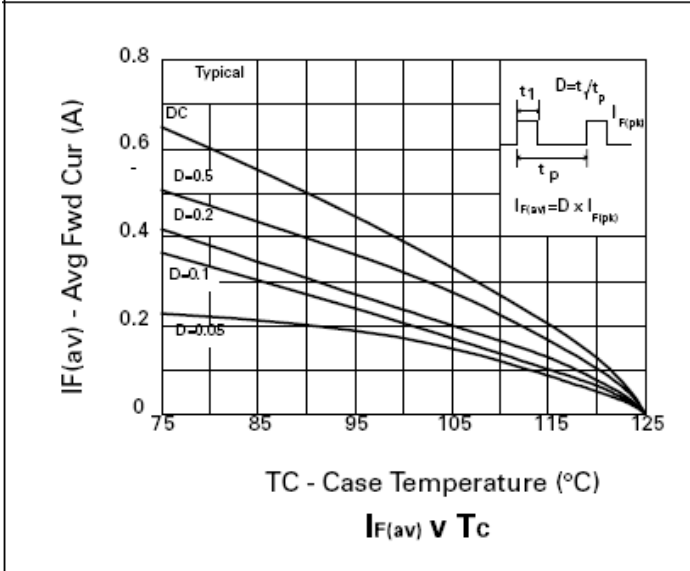
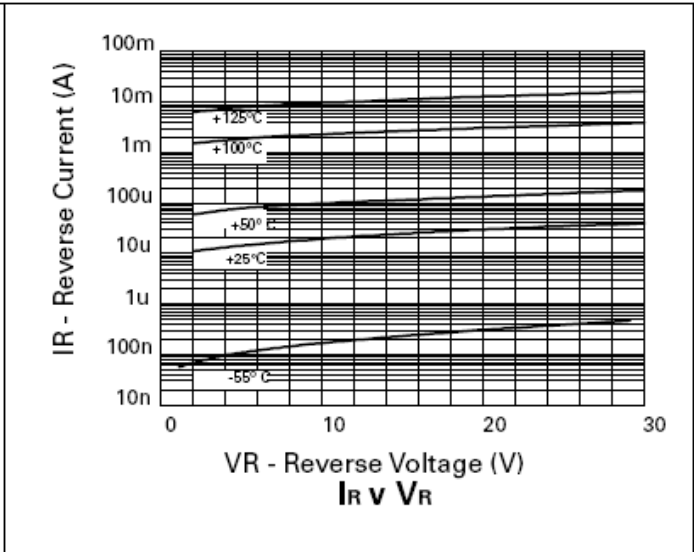
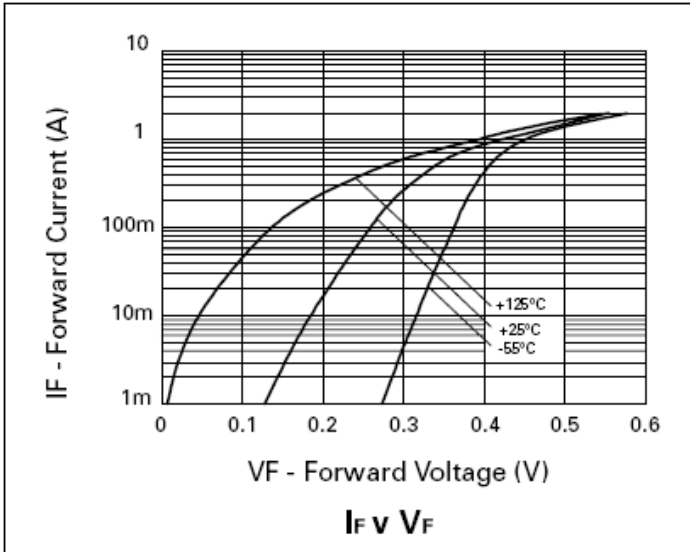
Thermal Characteristics

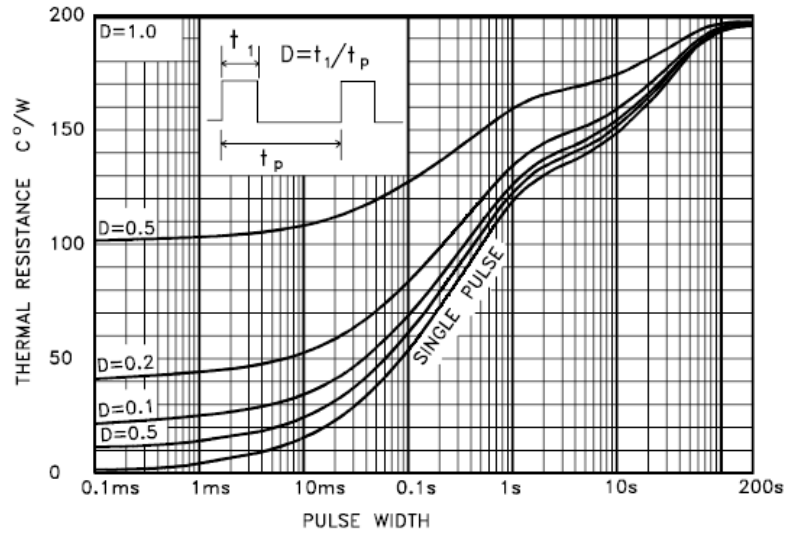
Characteristic	Symbol	Value	Unit
Power Dissipation, $T_A = 25^\circ\text{C}$	P_D	500	mW
Junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

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	60	-	V	$I_R = 300\mu\text{A}$
Forward Voltage (Note 2)	V_F	-	240	270	mV	$I_F = 50\text{mA}$
		-	265	290		$I_F = 100\text{mA}$
		-	305	340		$I_F = 250\text{mA}$
		-	355	400		$I_F = 500\text{mA}$
		-	390	450		$I_F = 750\text{mA}$
		-	425	500		$I_F = 1\text{A}$
		-	495	600		$I_F = 1.5\text{A}$
		-	420	-		$I_F = 1\text{A}, T_A = 100^\circ\text{C}$
Reverse Current	I_R	-	50	100	μA	$V_R = 30\text{V}$
Diode Capacitance	C_D	-	25	-	pF	$f = 1\text{MHz}, V_R = 30\text{V}$
Reverse Recovery Time	t_{rr}	-	12	-	ns	Switched from $I_F = 500\text{mA}$ to $I_R = 500\text{mA}$ Measured @ $I_R = 50\text{mA}$

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

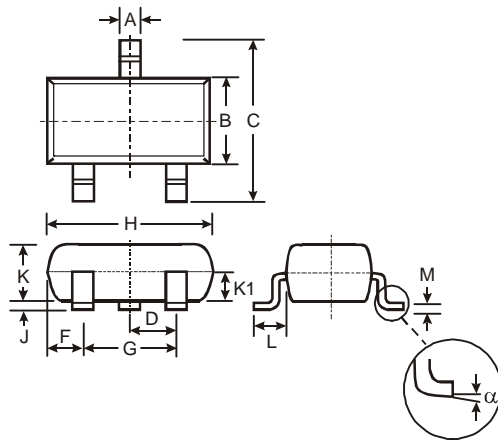




MAXIMUM TRANSIENT THERMAL RESISTANCE*

* Devices were mounted on a 15mmx15mm ceramic substrate.

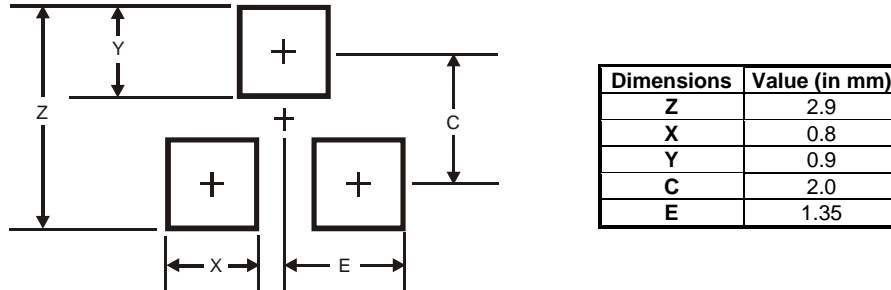
Package Outline Dimensions



SOT-23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.903	1.10	1.00
K1	-	-	0.400
L	0.45	0.61	0.55
M	0.085	0.18	0.11
α	0°	8°	-

All Dimensions in mm

Suggested Pad Layout



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