

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



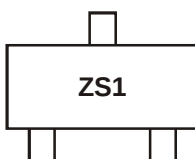
Top View

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°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 = 1A (typ)		V _F	425	mV
Average Peak Forward Current; D.C. = 50%		I _{FAV}	1750	mA
Non Repetitive Forward Current	t ≤ 100μs	I _{FSM}	12	A
	t ≤ 10ms		5.2	A

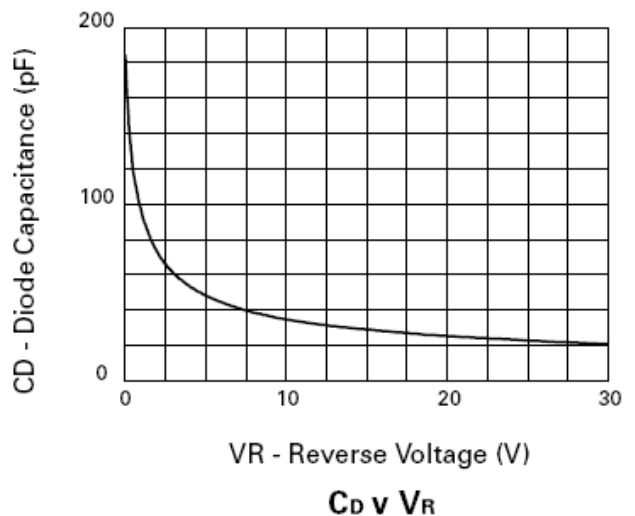
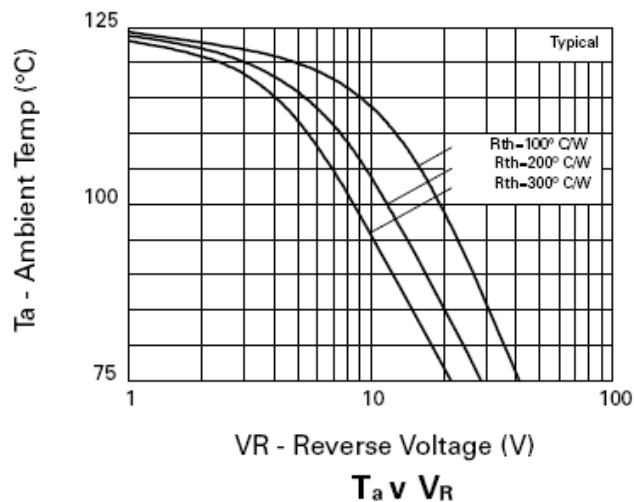
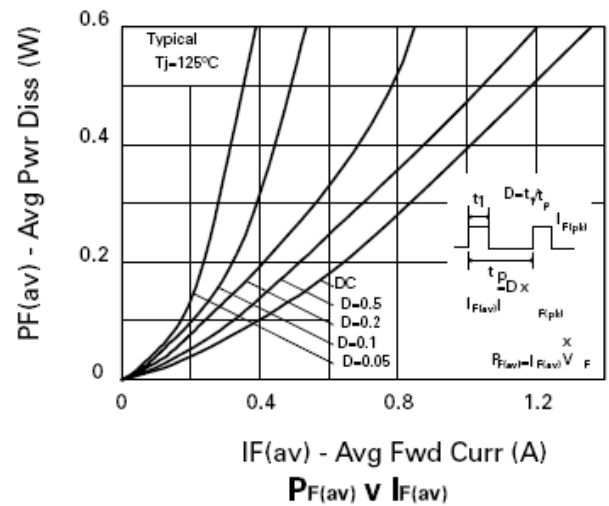
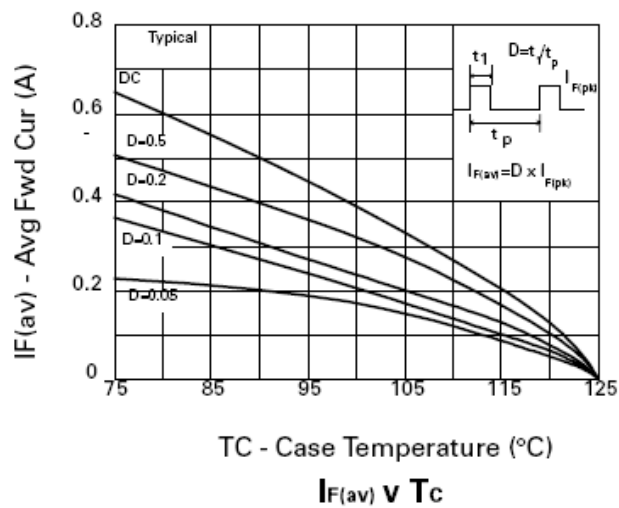
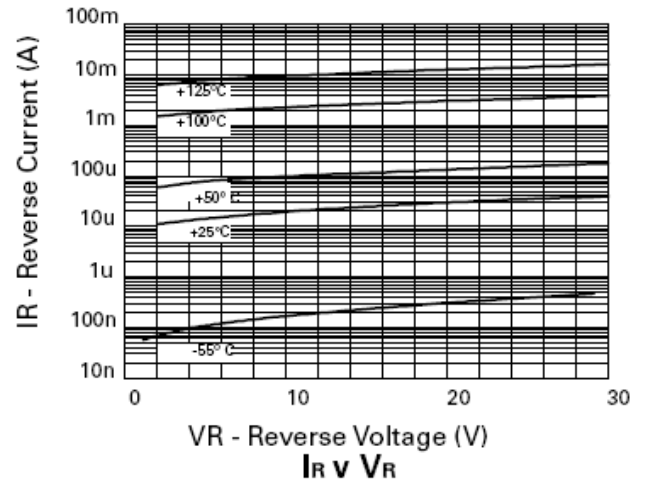
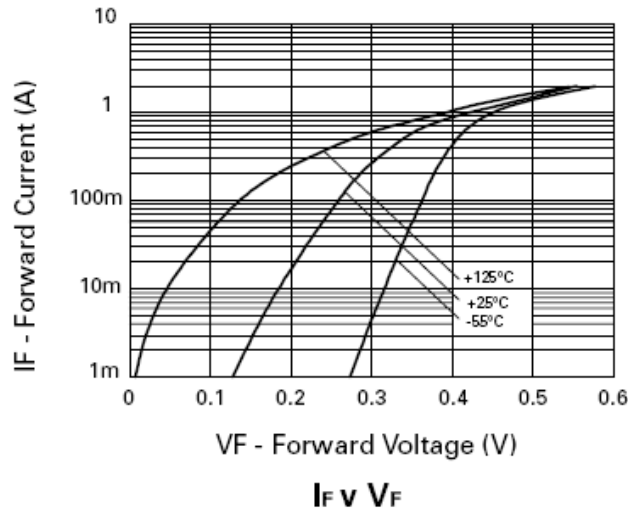
Thermal Characteristics

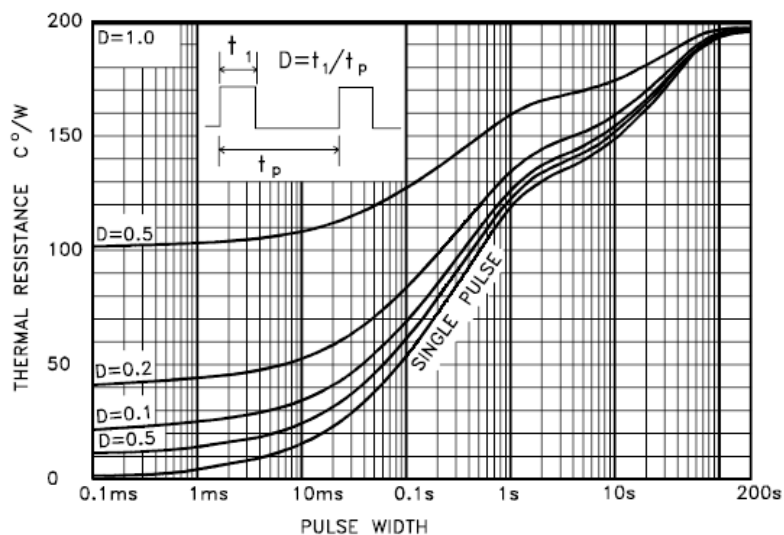
Characteristic	Symbol	Value	Unit
Power Dissipation, T _A = 25°C	P _D	500	mW
Junction Temperature	T _J	125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	V _{(BR)R}	40	60	-	V	I _R = 300μA
Forward Voltage (Note 2)	V _F	-	240	270	mV	I _F = 50mA
		-	265	290		I _F = 100mA
		-	305	340		I _F = 250mA
		-	355	400		I _F = 500mA
		-	390	450		I _F = 750mA
		-	425	500		I _F = 1A
		-	495	600		I _F = 1.5A
		-	420	-		I _F = 1A, T _A = 100°C
Reverse Current	I _R	-	50	100	μA	V _R = 30V
Diode Capacitance	C _D	-	25	-	pF	f = 1MHz, V _R = 30V
Reverse Recovery Time	trr	-	12	-	ns	Switched from I _F = 500mA to I _R = 500mA Measured @ I _R = 50mA

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

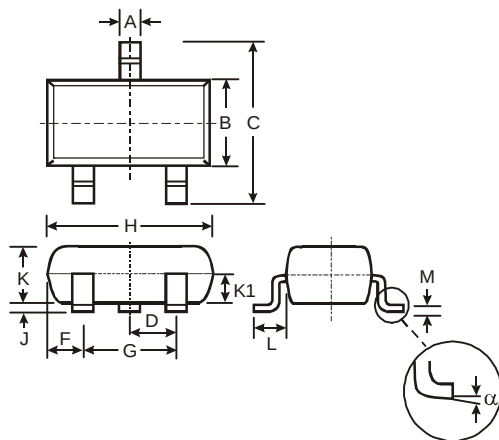




MAXIMUM TRANSIENT THERMAL RESISTANCE*

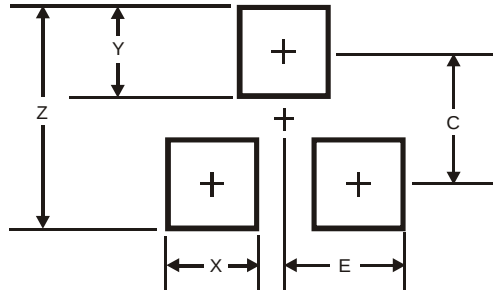
* Devices were mounted on a 15mmx15mm ceramic substrate.

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



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

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