

**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

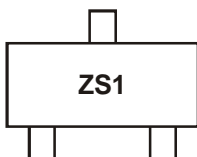


Top View

**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<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units	
Continuous Reverse Voltage	V <sub>R</sub>	40	V	
Continuous Forward Current	I <sub>F</sub>	1	A	
Forward Voltage @ I <sub>F</sub> = 1A (typ)	V <sub>F</sub>	425	mV	
Average Peak Forward Current; D.C. = 50%	I <sub>FAV</sub>	1750	mA	
Non Repetitive Forward Current	I <sub>FSM</sub>	t ≤ 100μs	12	A
		t ≤ 10ms	5.2	A

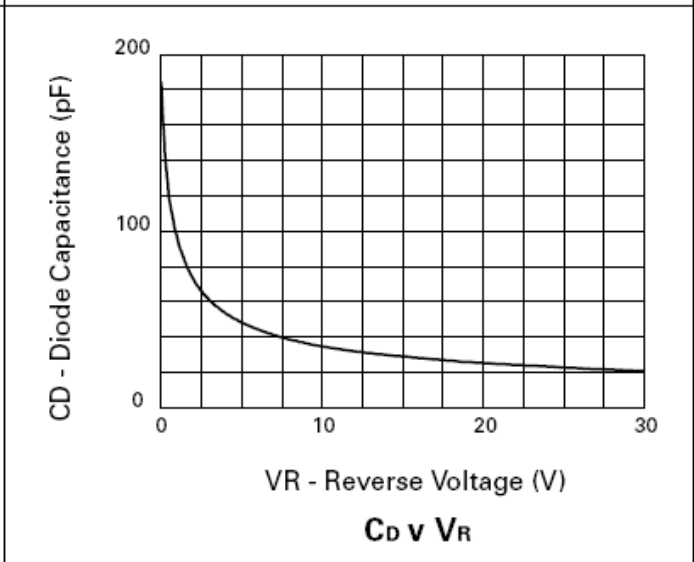
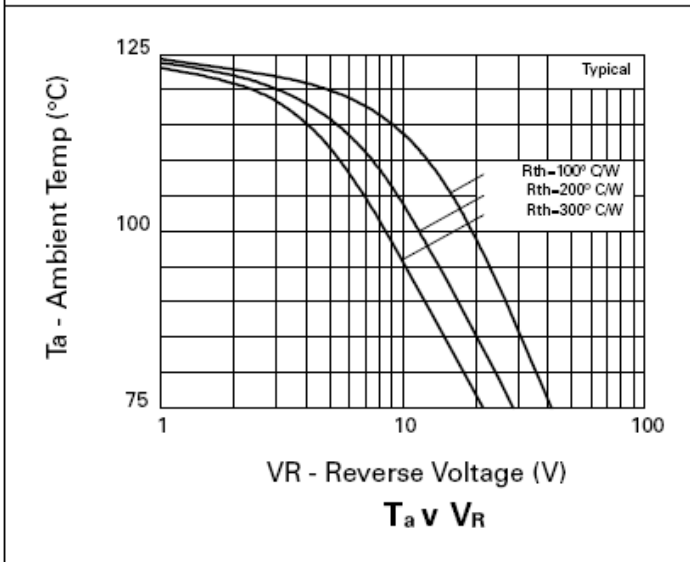
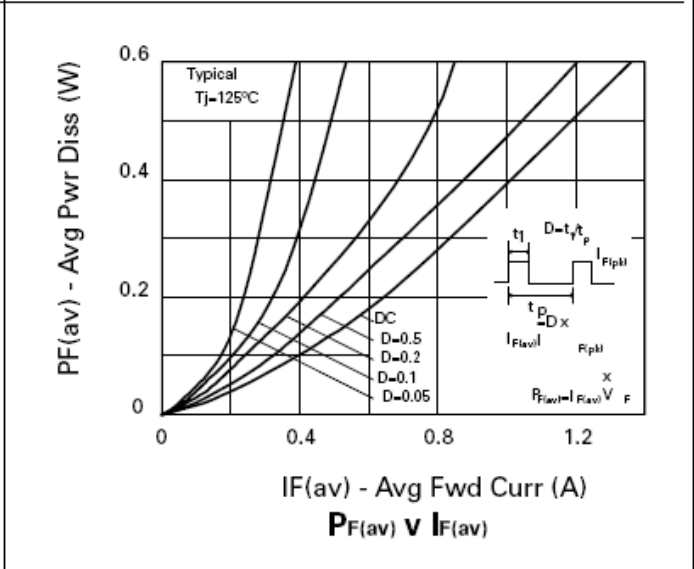
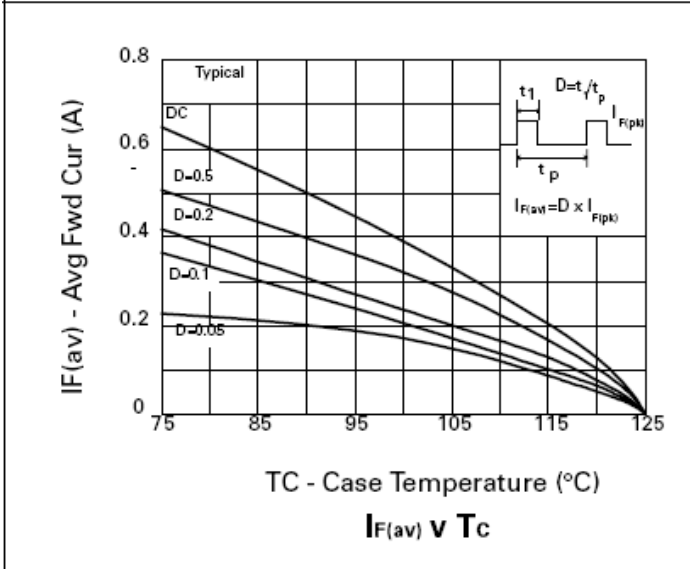
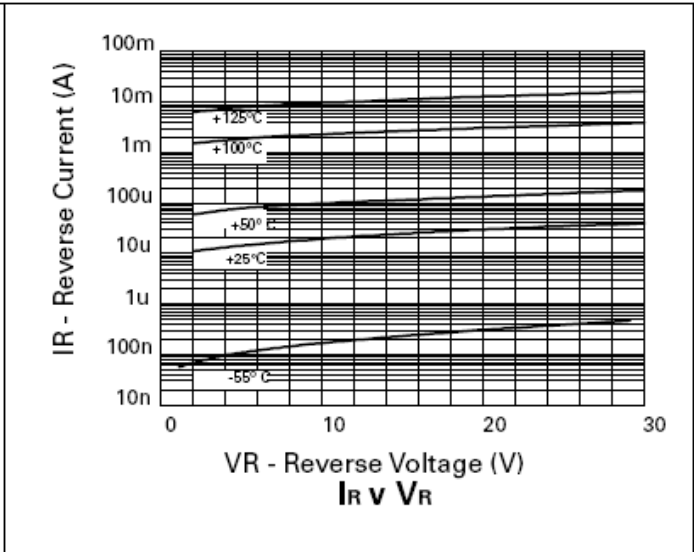
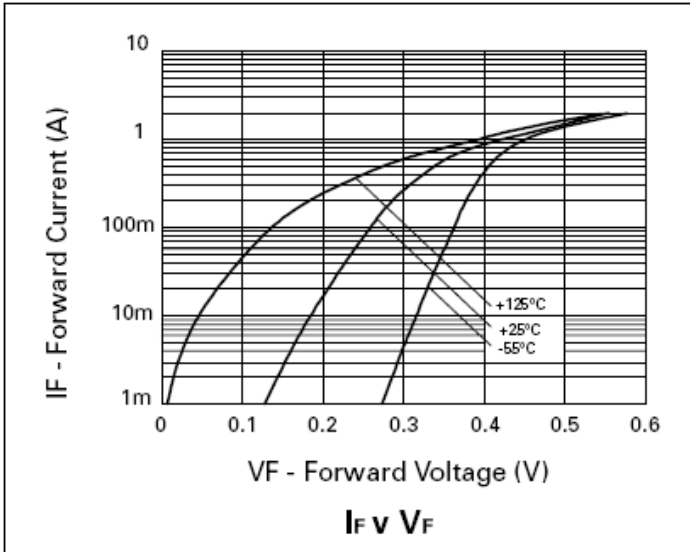
**Thermal Characteristics**

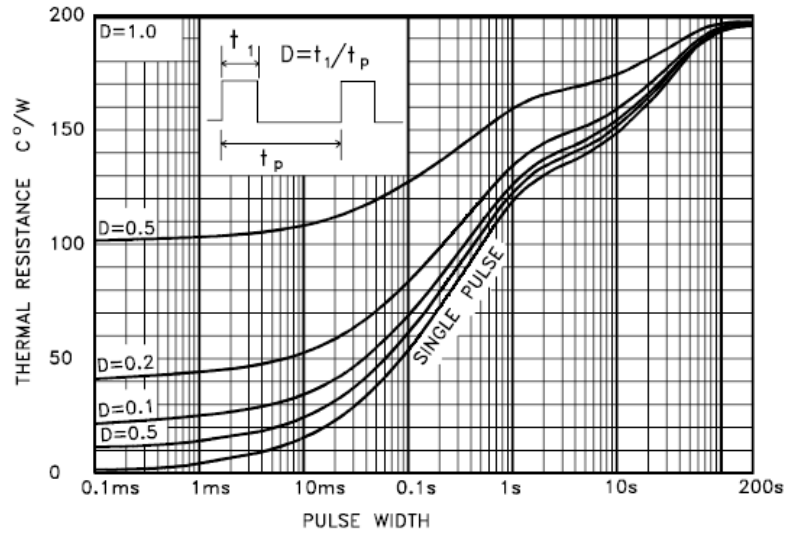
Characteristic	Symbol	Value	Unit
Power Dissipation, T <sub>A</sub> = 25°C	P <sub>D</sub>	500	mW
Junction Temperature	T <sub>J</sub>	125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

**Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

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

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

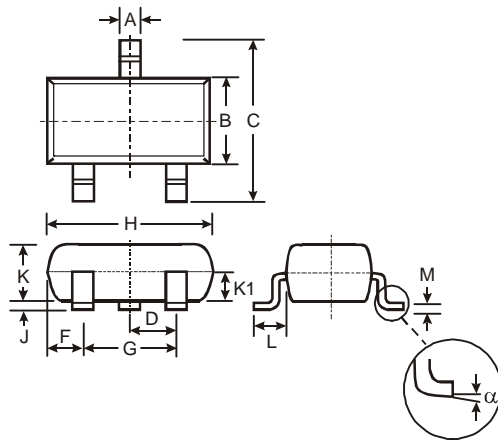




MAXIMUM TRANSIENT THERMAL RESISTANCE\*

\* Devices were mounted on a 15mmx15mm ceramic substrate.

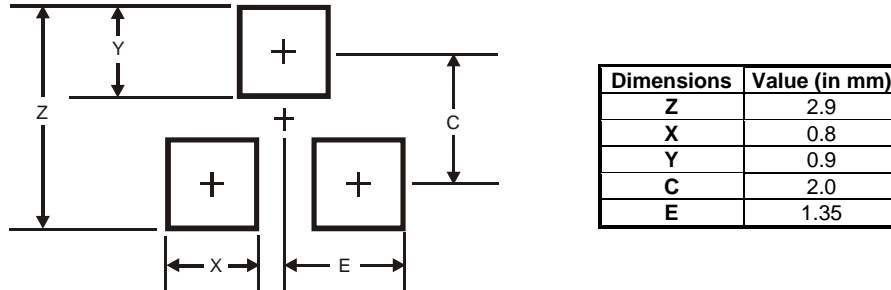
**Package Outline Dimensions**



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
$\alpha$	0°	8°	-

All Dimensions in mm

## Suggested Pad Layout



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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

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