

**Product Summary**

- $V_R = 60V$
- $I_F = 500mA$
- $I_R = 40\mu A$

**Description and Applications**

- DC – DC Converters
- Mobile Telecomms
- PCMIA

**Features and Benefits**

- High current capability ( $I_F = 500mA$ )
- 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

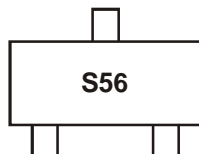


Top View

**Ordering Information** (Note 1)

Device	Packaging	Shipping
ZHCS506TA	SOT23	3000/Tape & Reel

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

**Marking Information**


S56 = Product Type Marking Code

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

Characteristic	Symbol	Value	Units
Continuous Reverse Voltage	$V_R$	60	V
Continuous Forward Current	$I_F$	500	mA
Forward Voltage @ $I_F = 500\text{mA}$	$V_F$	630	mV
Average Peak Forward Current; D.C. = 50%	$I_{FAV}$	1000	mA
Non Repetitive Forward Current	$I_{FSM}$	$t \leq 100\mu\text{s}$	A
		$t \leq 10\text{ms}$	A

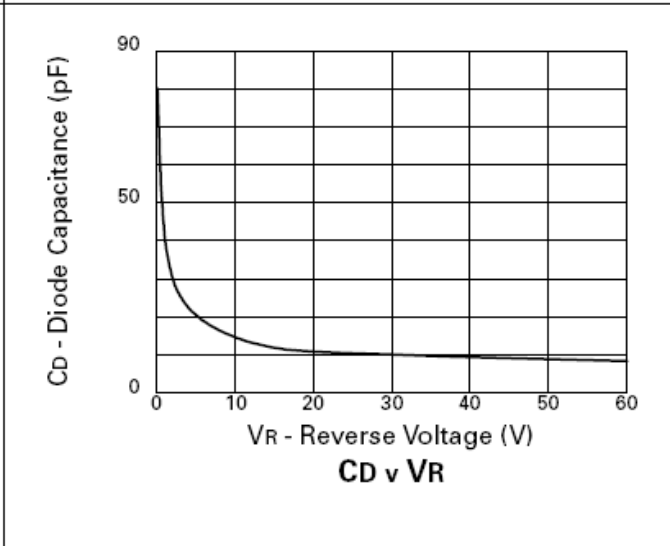
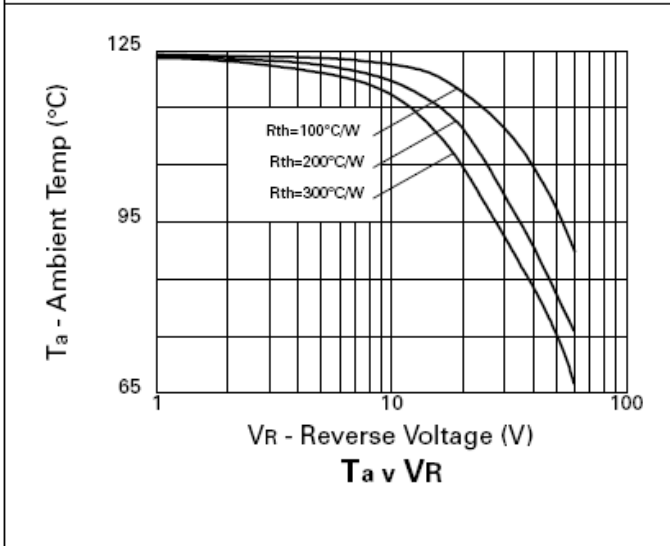
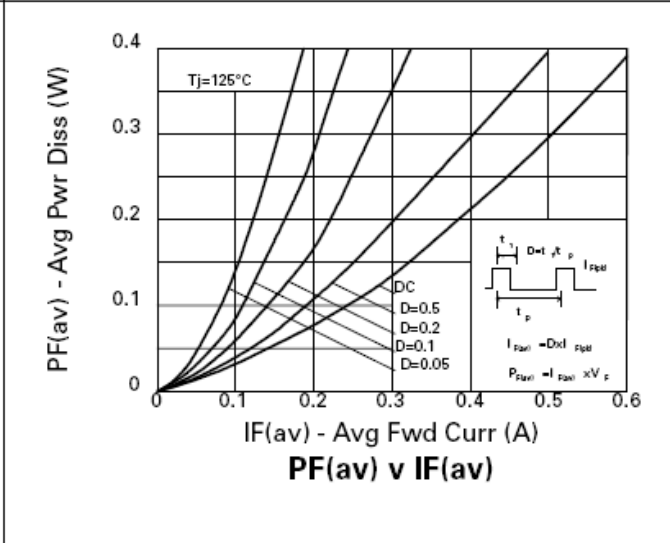
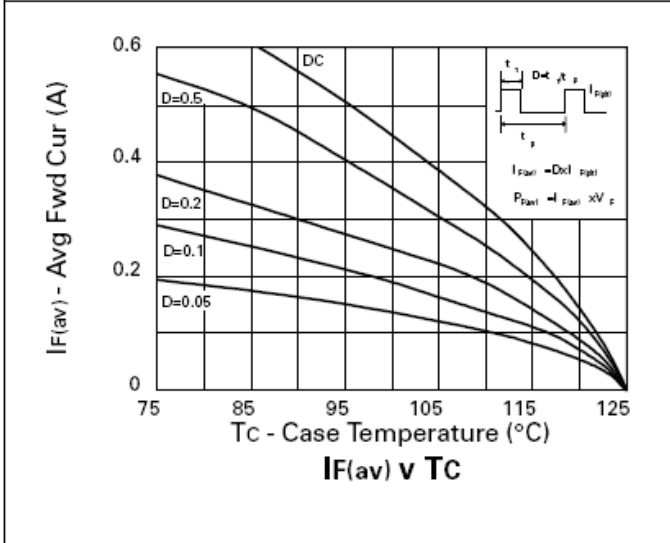
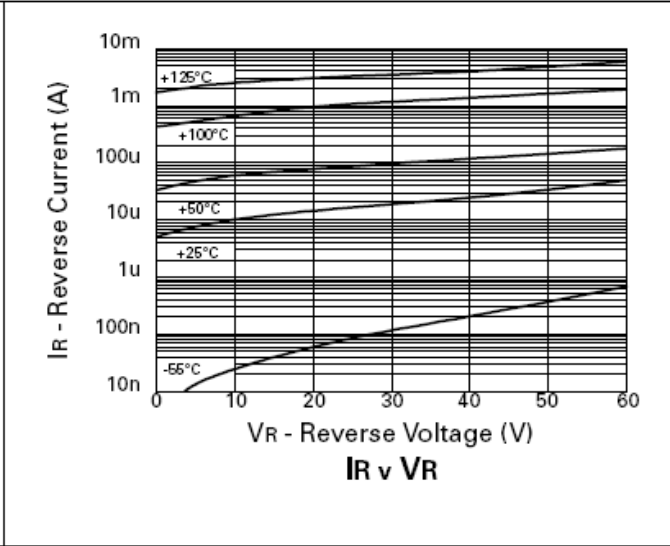
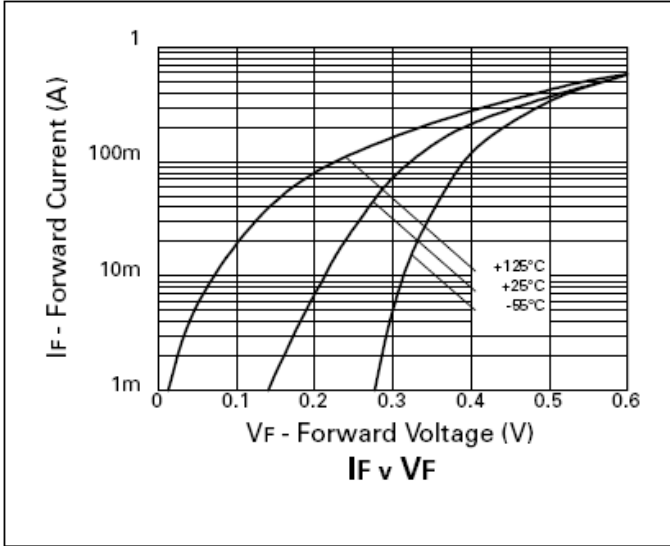
**Thermal Characteristics**

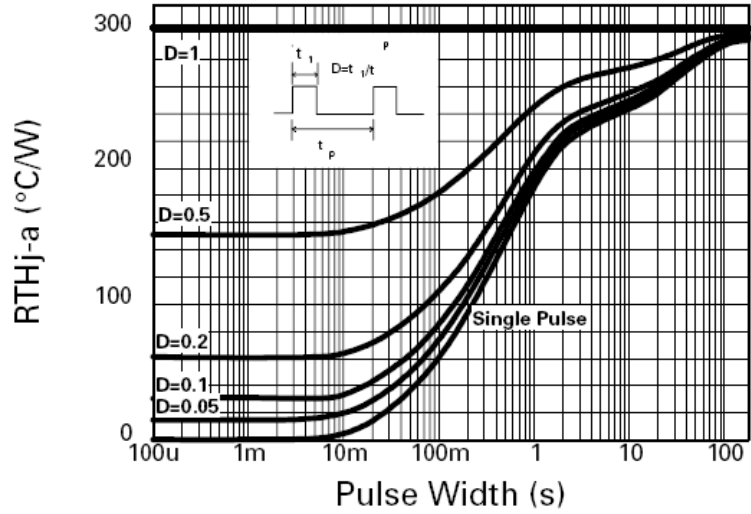
Characteristic	Symbol	Value	Unit
Power Dissipation, $T_A = 25^\circ\text{C}$	$P_D$	330	mW
Junction Temperature	$T_J$	125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

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

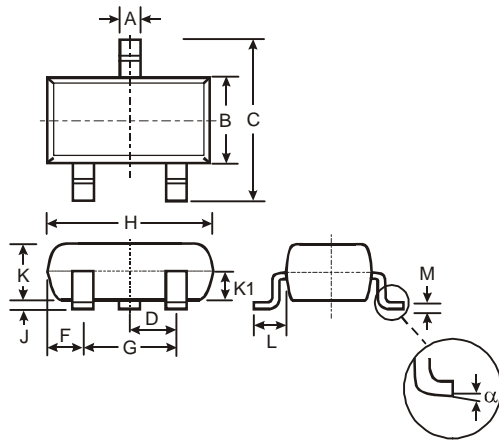
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	$V_{(BR)R}$	60	80	-	V	$I_R = 200\mu\text{A}$
Forward Voltage (Note 2)	$V_F$	-	275	310	mV	$I_F = 50\text{mA}$
		-	320	360		$I_F = 100\text{mA}$
		-	415	470		$I_F = 250\text{mA}$
		-	550	630		$I_F = 500\text{mA}$
		-	680	800		$I_F = 750\text{mA}$
		-	820	960		$I_F = 1\text{A}$
		-	1120	1350		$I_F = 1.5\text{A}$
		-	565	-		$I_F = 500\text{mA}, T_A = 100^\circ\text{C}$
Reverse Current	$I_R$	-	20	40	$\mu\text{A}$	$V_R = 45\text{V}$
Diode Capacitance	$C_D$	-	20	-	pF	$f = 1\text{MHz}, V_R = 25\text{V}$
Reverse Recovery Time	$t_{rr}$	-	10	-	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%.



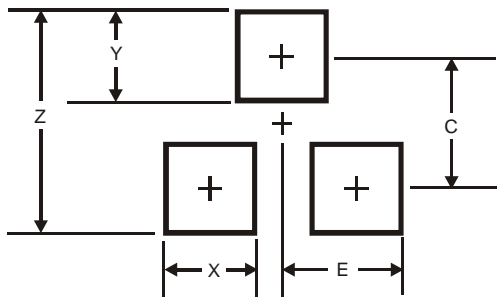


**Package Outline Dimensions**



SOT23			
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**



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

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