

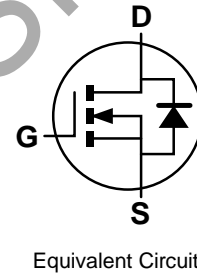
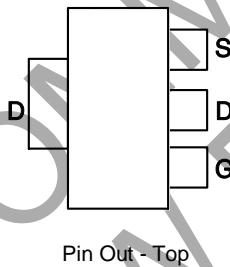
Product Summary

BV_{DSS}	$R_{DS(ON)}$	I_D $T_A = +25^\circ C$
30V	$0.11\Omega @ V_{GS} = 10V$	4.7A

Description and Applications

This MOSFET has been designed to minimize the on-state resistance ($R_{DS(ON)}$) and yet maintain superior switching performance, making it ideal for high efficiency power management applications.

- DC-DC Converters
- Audio Output Stage
- Relay and Solenoid Driving
- Motor Control



Features and Benefits

- Low On-Resistance
- Fast Switching Speed
- Low Threshold
- Low Gate Drive
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

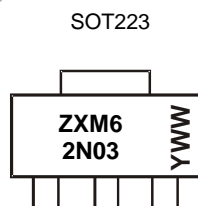
- Case: SOT223
- Case Material: Molded Plastic, "Green" Molding Compound
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish — Matte Tin Annealed over Copper Leadframe.
Solderable per MIL-STD-202, Method 208 (E3)
- Weight: 0.112 grams (Approximate)

Ordering Information (Note 4)

Part Number	Marking	Reel Size (inches)	Tape Width (mm)	Quantity Per Reel
ZXM62N03GTA	ZXM62N03	7	12	1,000
ZXM62N03GTC	ZXM62N03	13	12	4,000

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information



ZXM62N03 = Product Type Marking Code
 YWW = Date Code Marking
 Y or Y = Last Digit of Year (ex: 5 = 2015)
 WW or WW = Week Code (01 to 53)

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Drain-Source Voltage	V _{DSS}	30	V
Gate-Source Voltage	V _{GSS}	±20	V
Continuous Drain Current (V _{GS} = 10V, T _A = +25°C) (Note 6)	I _D	4.7	A
(V _{GS} = 10V, T _A = +70°C) (Note 6)		3.8	
(V _{GS} = 10V, T _A = +25°C) (Note 5)		3.4	
Pulsed Drain Current (Note 7)	I _{DM}	16	A
Continuous Source Current (Body Diode) (Note 6)	I _S	2.6	A
Pulsed Source Current (Body Diode) (Note 7)	I _{SM}	16	A

Thermal Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Power Dissipation at T _A = +25°C (Note 5)	P _D	2.0	W
Linear Derating Factor		16	mW/°C
Power Dissipation at T _A = +25°C (Note 6)	P _D	3.9	W
Linear Derating Factor		31	mW/°C
Thermal Resistance, Junction to Ambient (Note 5)	R _{θJA}	62.5	°C/W
Thermal Resistance, Junction to Ambient (Note 6)	R _{θJA}	32	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

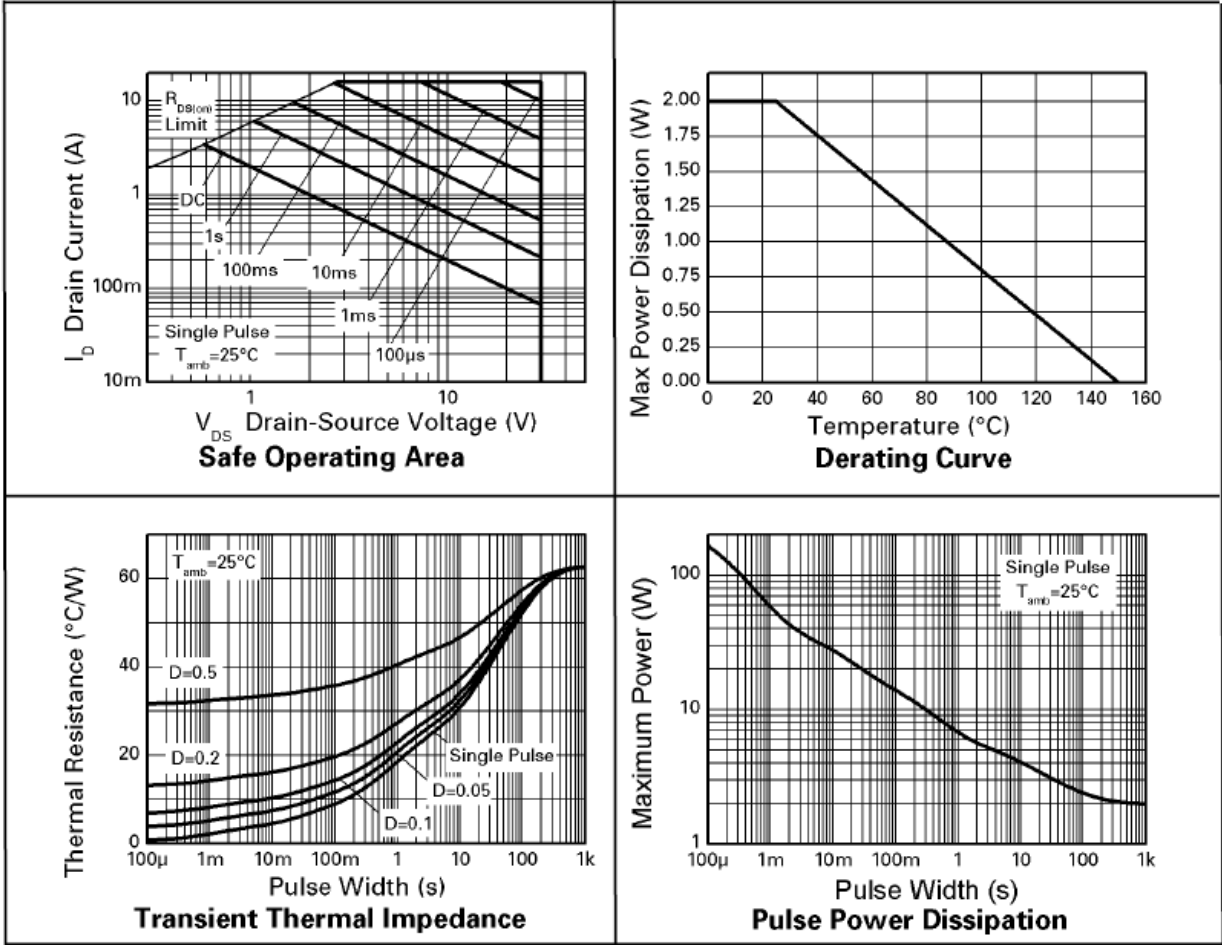
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	30	—	—	V	V _{GS} = 0V, I _D = 250μA
Zero Gate Voltage Drain Current T _J = +25°C	I _{DSS}	—	—	1	μA	V _{DS} = 30V, V _{GS} = 0V
Gate-Source Leakage	I _{GSS}	—	—	100	nA	V _{GS} = ±20V, V _{DS} = 0V
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	1	—	—	V	V _{DS} = V _{GS} , I _D = 250μA
Static Drain-Source On-Resistance (Note 8)	R _{DS(ON)}	—	—	0.11 0.15	Ω	V _{GS} = 10V, I _D = 2.2A V _{GS} = 4.5V, I _D = 1.1A
Forward Transconductance (Notes 8 & 10)	g _{fs}	1.1	—	—	S	V _{DS} = 15V, I _D = 1.1A
Diode Forward Voltage (Note 8)	V _{SD}	—	—	0.95	V	T _J = +25°C, I _S = 2.2A, V _{GS} = 0V
DYNAMIC CHARACTERISTICS (Note 10)						
Input Capacitance	C _{iss}	—	380	—	pF	V _{DS} = 25V, V _{GS} = 0V, f = 1.0MHz
Output Capacitance	C _{oss}	—	90	—	pF	
Reverse Transfer Capacitance	C _{rss}	—	30	—	pF	
Turn-On Delay Time (Note 9)	t _{D(ON)}	—	2.9	—	ns	V _{DD} = 15V, I _D = 2.2A, V _{GS} = 10V, R _{GS} = 6Ω
Turn-On Rise Time (Note 9)	t _R	—	5.6	—	ns	
Turn-Off Delay Time (Note 9)	t _{D(OFF)}	—	11.7	—	ns	
Turn-Off Fall Time (Note 9)	t _F	—	6.4	—	ns	
Total Gate Charge (Note 9)	Q _g	—	—	9.6	nC	V _{DS} = 24V, V _{GS} = 10V, I _D = 2.2A
Gate-Source Charge (Note 9)	Q _{gs}	—	—	1.7	nC	
Gate-Drain Charge (Note 9)	Q _{gd}	—	—	2.8	nC	
Reverse Recovery Time	t _{RR}	—	18.8	—	ns	T _J = +25°C, I _F = 2.2A, di/dt = 100A/μs
Reverse Recovery Charge	Q _{RR}	—	11.4	—	nC	

- Notes:
5. For a device surface mounted on 25mm x 25mm FR-4 PCB with high coverage of single sided 1oz copper, in still air conditions.
 6. For a device surface mounted on FR-4 PCB measured at t ≤ 10 seconds.
 7. Repetitive rating 25mm x 25mm FR-4 PCB, D = 0.05 pulse width limited by maximum junction temperature.
 8. Measured under pulsed conditions. Width = 300μs. Duty cycle ≤ 2%.
 9. Switching characteristics are independent of operating junction temperature.
 10. For design aid only, not subject to production testing.

NOT RECOMMENDED FOR NEW DESIGN
USE DMN3032LE and ZXMN6A11G

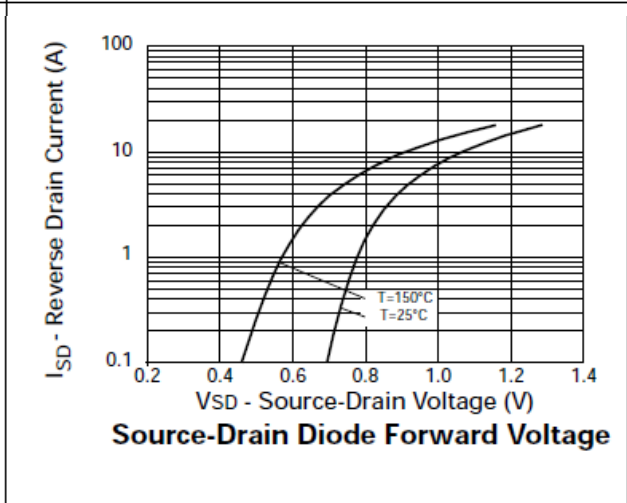
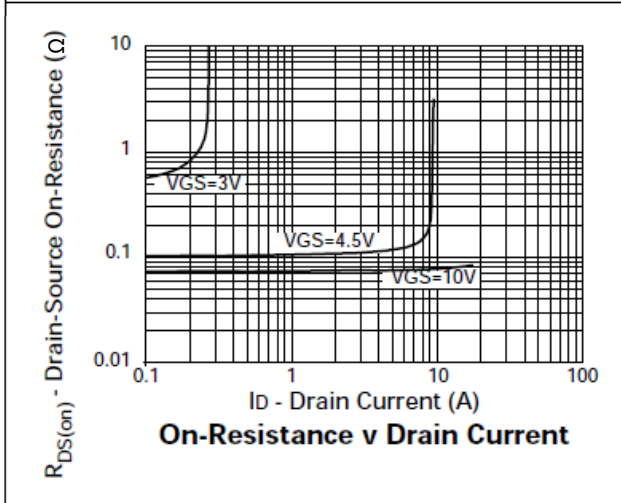
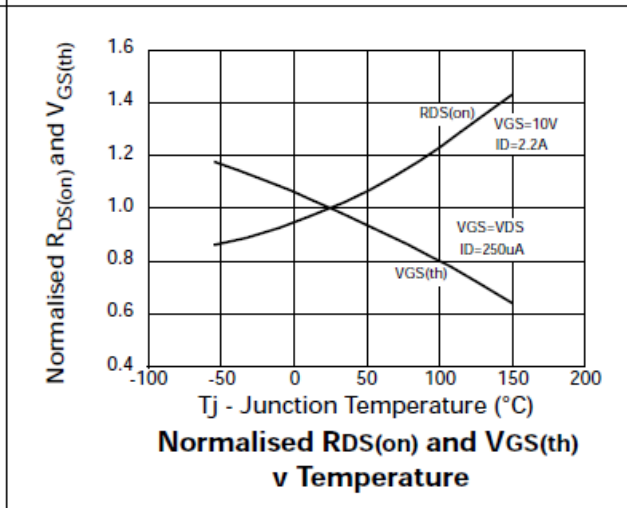
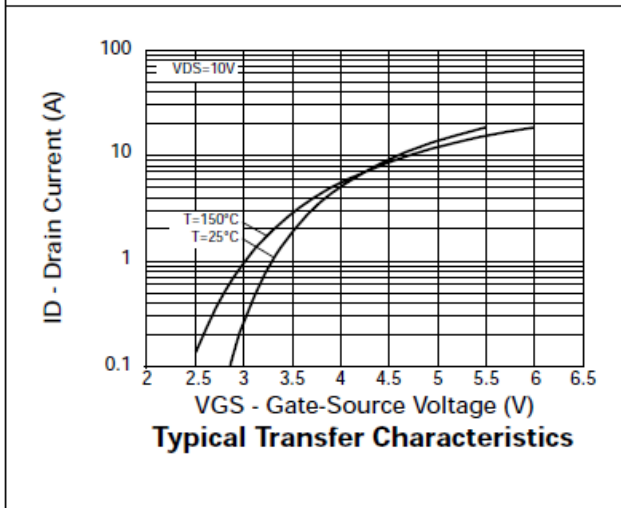
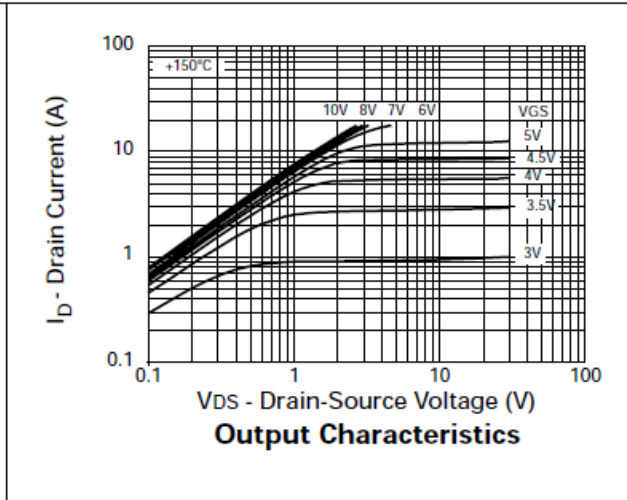
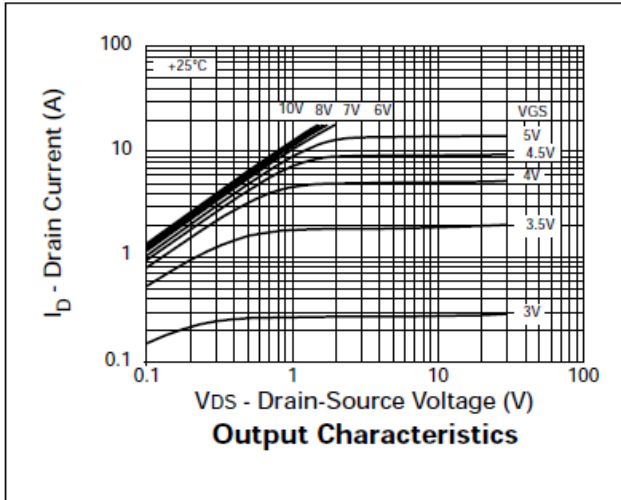


ZXM62N03G

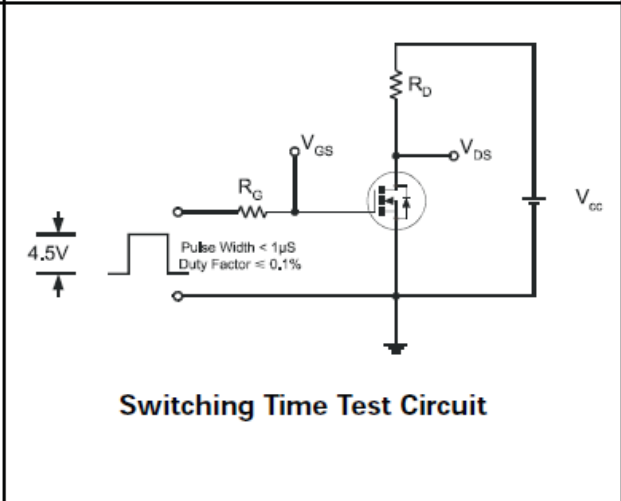
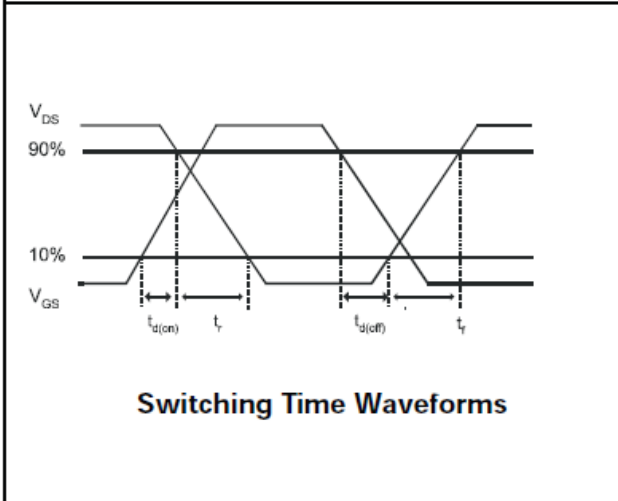
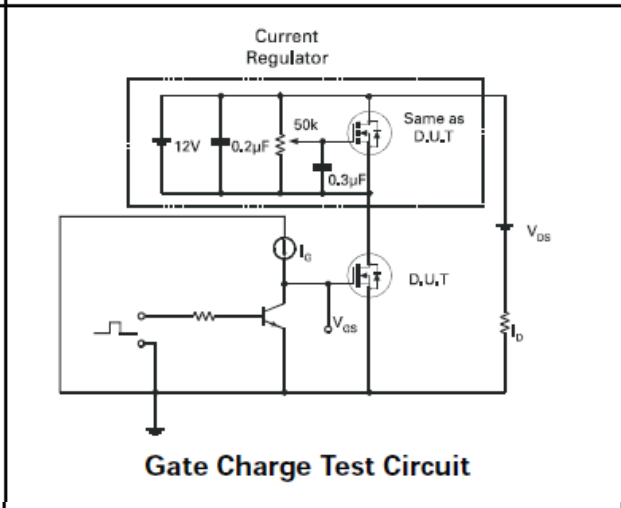
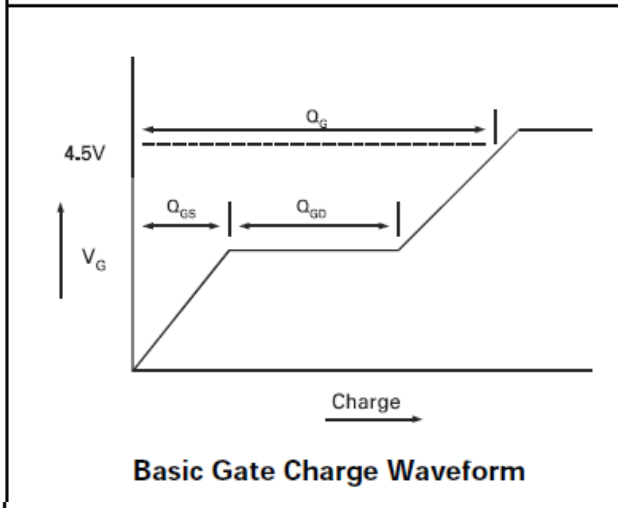
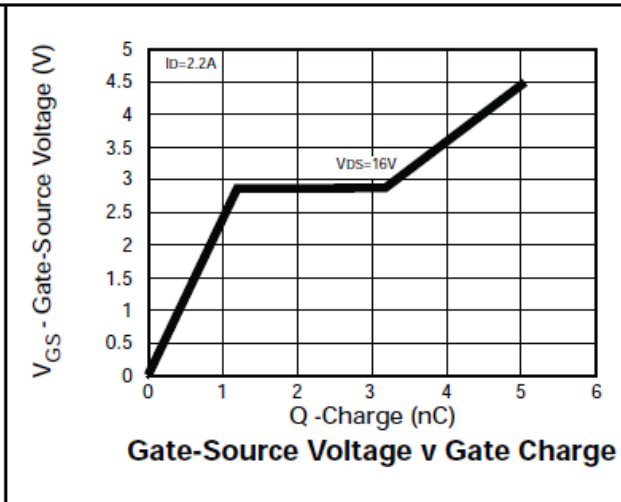
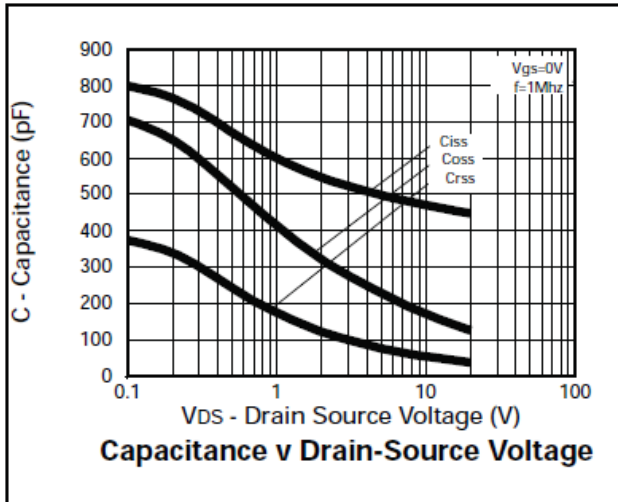


NOT RECOMMENDED FOR NEW DESIGN

Typical Characteristics



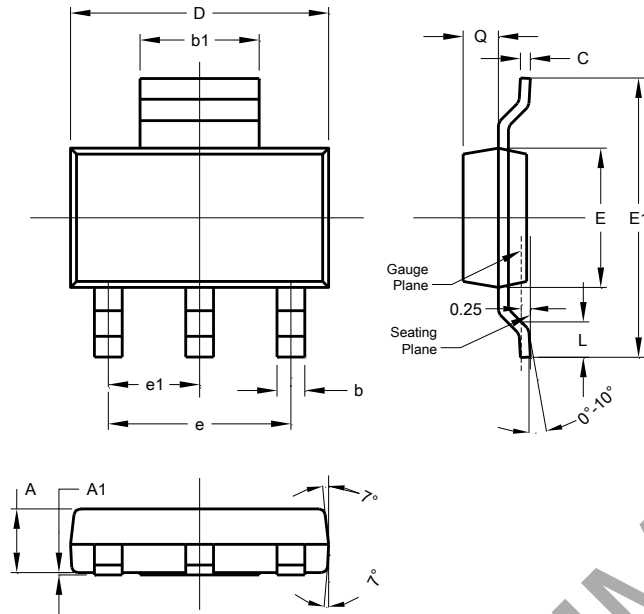
Typical Characteristics (Cont.)



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT223

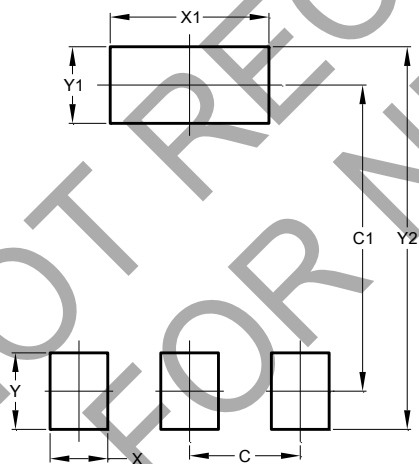


SOT223			
Dim	Min	Max	Typ
A	1.55	1.65	1.60
A1	0.010	0.15	0.05
b	0.60	0.80	0.70
b1	2.90	3.10	3.00
C	0.20	0.30	0.25
D	6.45	6.55	6.50
E	3.45	3.55	3.50
E1	6.90	7.10	7.00
e	-	-	4.60
e1	-	-	2.30
L	0.85	1.05	0.95
Q	0.84	0.94	0.89
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT223



Dimensions	Value (in mm)
C	2.30
C1	6.40
X	1.20
X1	3.30
Y	1.60
Y1	1.60
Y2	8.00

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