

Product Summary (@T_A = +25°C)

V _{RRM} (V)	I _o (mA)	V _{FMAX} (V) @100mA	I _{RMAX} (μA)
30	200	0.70	0.4

Description

The SDM02M30CLP3 is a Schottky barrier diode optimized for low forward voltage drop and very-low reverse leakage current in a common cathode DFN package. Encapsulated in the small DFN1006 with footprint of 0.6mm² and ultra-low package profile, this device is designed for saving PCB space in portable electronic devices.

Applications

- Portable Device
- Mobile Applications
- LCD and Keypad Backlighting
- Clamping Protection
- Reverse Voltage and Current Protection
- Freewheeling Diode

Features and Benefits

- Small Leadless Surface Mount Package (1.0mm x 0.6mm x 0.37mm)
- Very Low Reverse Leakage Current
- Low Forward Voltage
- Fast Reverse Recovery
- Low Capacitance
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- Halogen and Antimony Free. "Green" Device (Note 3)**

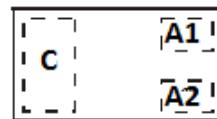
Mechanical Data

- Case: X2-DFN1006-3
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Bar
- Terminals: Finish—NiPdAu Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 
- Weight: 0.001 grams (Approximate)

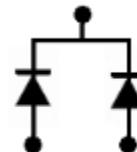
X2-DFN1006-3



Bottom View



Top View
C: Cathode
A1&A2: Anode 1&2



Equivalent Circuit

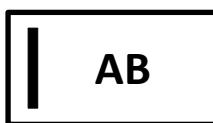
Ordering Information (Note 4)

Part Number	Case	Packaging
SDM02M30CLP3-7B	X2-DFN1006-3	10,000/Tape & Reel

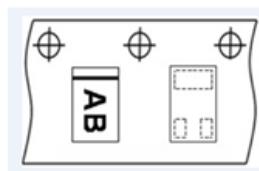
Notes:

- No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
- See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information



AB = Product Type Marking Code
AB = LC or LC
Bar Denotes Cathode Side



Maximum Ratings (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	30	V
DC Blocking Voltage	V_R		
Average Rectified Output Current (Total)	I_O	200	mA
Non-Repetitive Peak Forward Surge Current (8.33ms Half-Sine Waveform, per Diode)	I_{FSM}	2	A

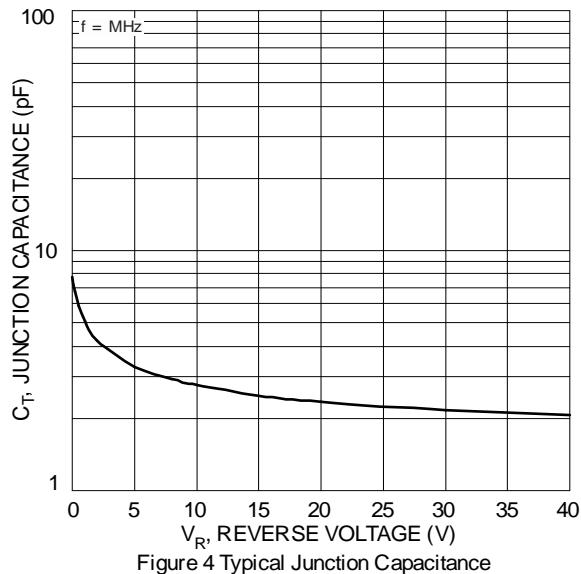
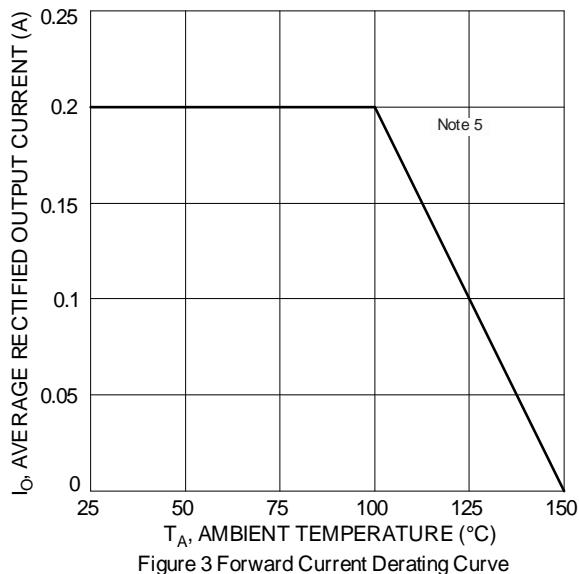
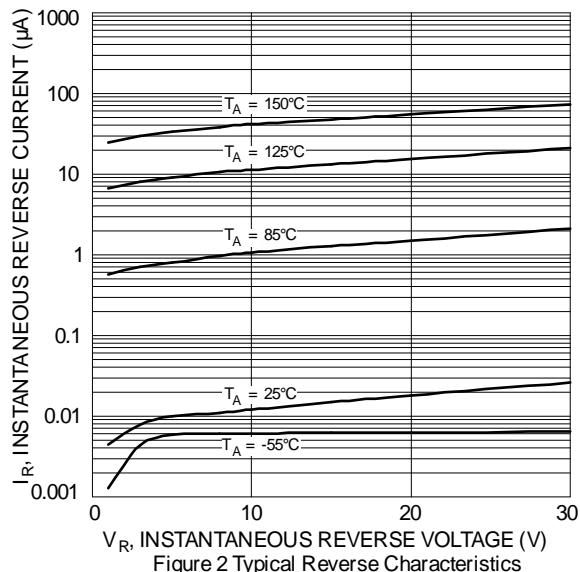
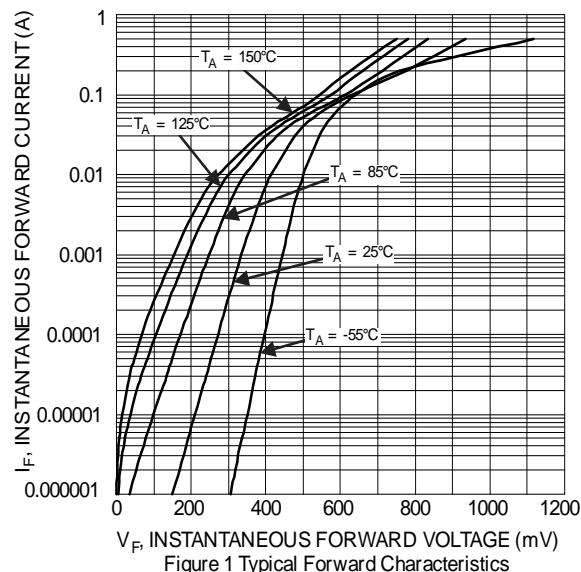
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5) (Total)	P_d	350	mW
Typical Thermal Resistance Junction to Ambient Air (Note 5)	$R_{\theta JA}$	350	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, per diode unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	V_F	—	0.28 0.34 0.42 0.63	0.34 0.40 0.48 0.70	V	$I_F = 0.1\text{mA}$ $I_F = 1\text{mA}$ $I_F = 10\text{mA}$ $I_F = 100\text{mA}$,
Leakage Current (Note 6)	I_R	—	0.014 0.040	0.15 0.40	μA	$V_R = 10\text{V}$ $V_R = 30\text{V}$
Reverse Recovery Time	t_{RR}	—	2	—	ns	$I_F = 10\text{mA}$, $I_R = 10\text{mA}$, $I_{RR} = 1\text{mA}$
Total Capacitance	C_T	—	3.3	—	pF	$V_R = 5.0\text{V}_{\text{DC}}$, $f = 1\text{MHz}$

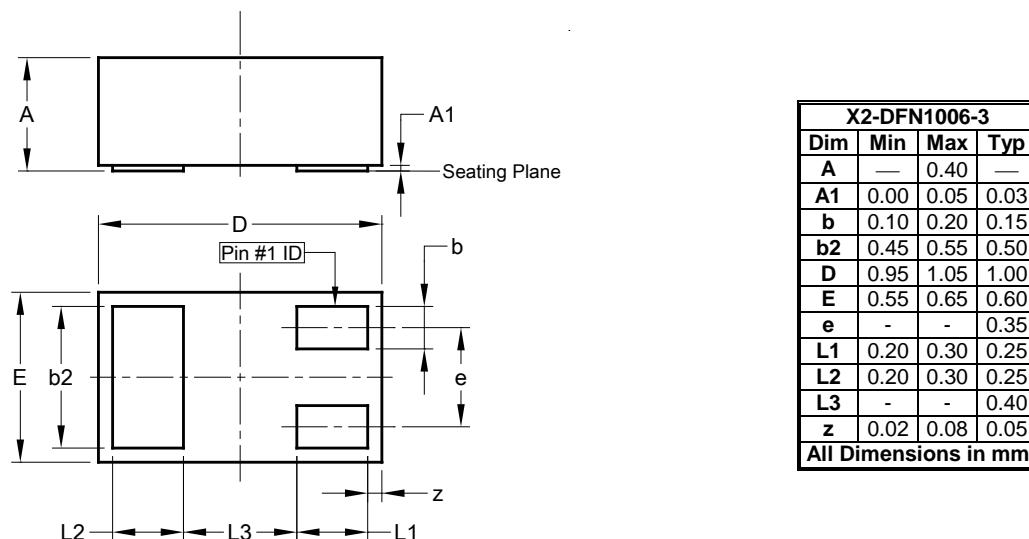
Notes: 5. Part mounted on FR-4 PCB with recommended pad layout, which can be found on our website at <http://www.diodes.com/package-outlines.html>.
6. Short duration pulse test used to minimize self-heating effect.



Package Outline Dimensions

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

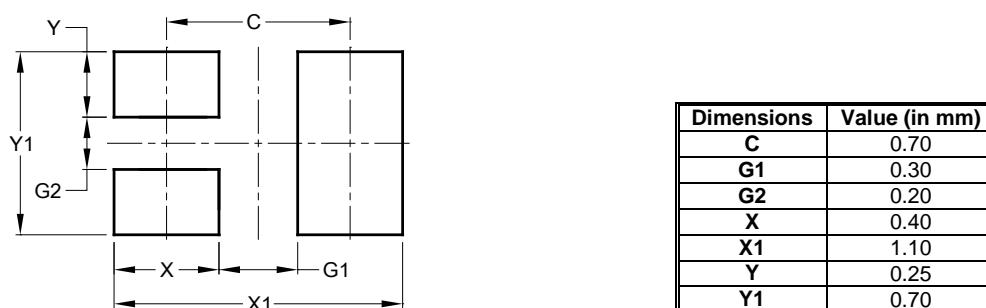
X2-DFN1006-3



Suggested Pad Layout

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

X2-DFN1006-3



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