

**Photovoltaic By-Pass Diode
50 Volts, 1.0 Amps**
PRODUCT PREVIEW
DESCRIPTION

Large area diode chip for medium current photovoltaic by-pass applications, or for higher current hybrid applications. The device is rated for 1A for applications where the device will be exposed to substantial radiation flux (space). For other applications, it may be operated at higher currents. A version with attached leads is available.

KEY FEATURES

- Oxide passivated structure for very low leakage currents
- Epitaxial structure minimizes forward voltage drop
- Forward voltage decreases with radiation exposure
- Qualified for space applications
- Thin construction for fit with photovoltaic cells
- Rectangular shape

APPLICATIONS/BENEFITS

- Increases efficiency of photovoltaic arrays
- Protects photovoltaic cells from reverse voltage

IMPORTANT: For the most current data, consult MICROSEMI's website: <http://www.microsemi.com>

MAXIMUM RATINGS @ 25°C (UNLESS OTHERWISE SPECIFIED)

Description	Symbol	Max.	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	50	Volts
Working Peak Reverse Voltage	V_{RWM}	50	Volts
DC Blocking Voltage	V_R	50	Volts
Average Rectified Forward Current, $T_c \leq 135^\circ\text{C}$	$I_{F(ave)}$	1.0	Amps
Junction Temperature Range	T_j	-65 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +200	$^\circ\text{C}$

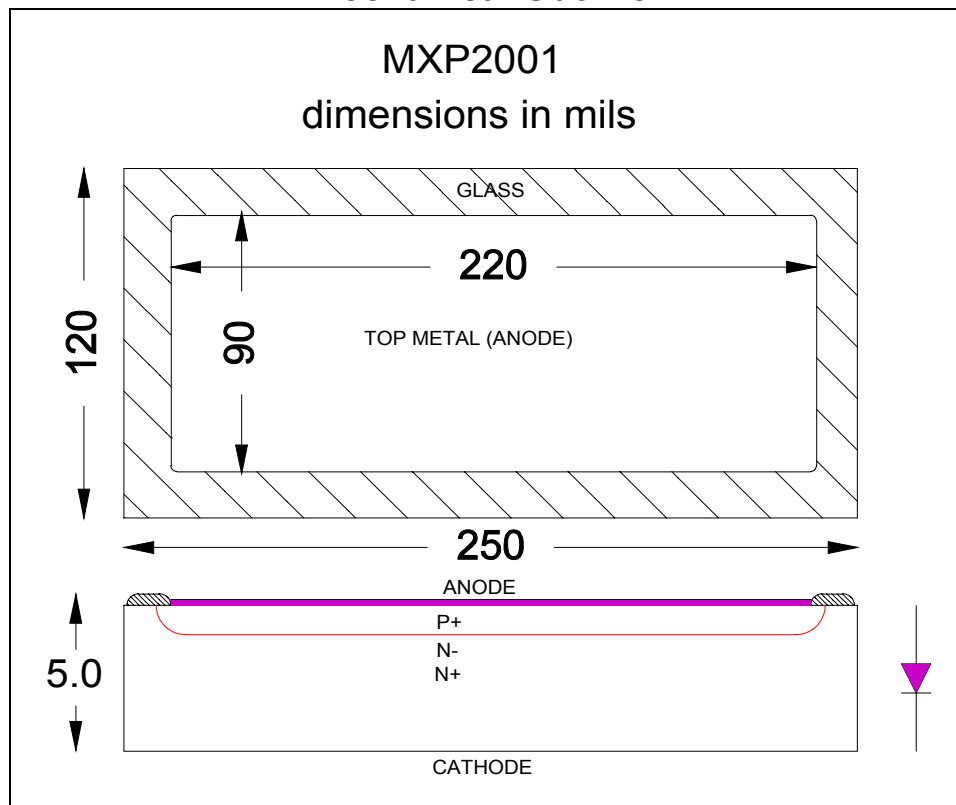
ELECTRICAL PARAMETERS

Description	Symbol	Conditions	Min	Typ.	Max	Unit
Reverse (Leakage) Current (in dark)	IR_{25}	$VR = 2.5 \text{ Vdc}, Ta = 25^\circ\text{C}$		10	200	nA
	IR_{25}	$VR = 10 \text{ Vdc}, Ta = 25^\circ\text{C}$		10	500	nA
Forward Voltage pulse test, $pw = 300 \mu\text{s}$	$VF1$	$IF = 0.5 \text{ A}, Ta = 25^\circ\text{C}$		770	800	mV
	$VF2$	$IF = 1.0 \text{ A}, Ta = 25^\circ\text{C}$		790	820	mV
Junction Capacitance	$Cj1$	$VR = 4 \text{ Vdc}$		800	1000	pF
Breakdown Voltage	BVR	$IR = 200 \mu\text{A}, Ta = 25^\circ\text{C}$	50	90		V

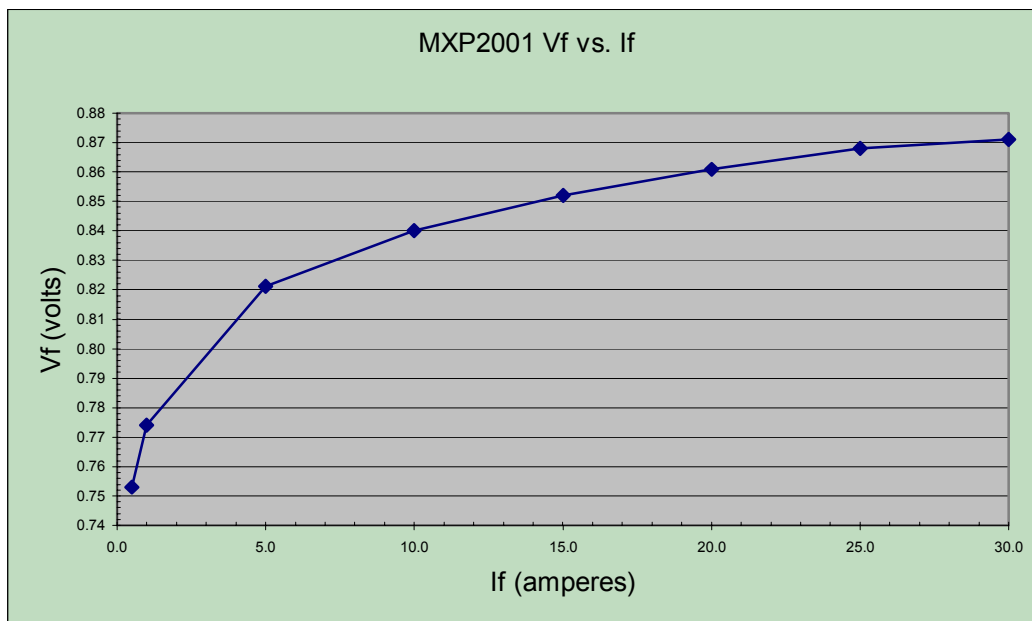
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Mechanical Outline



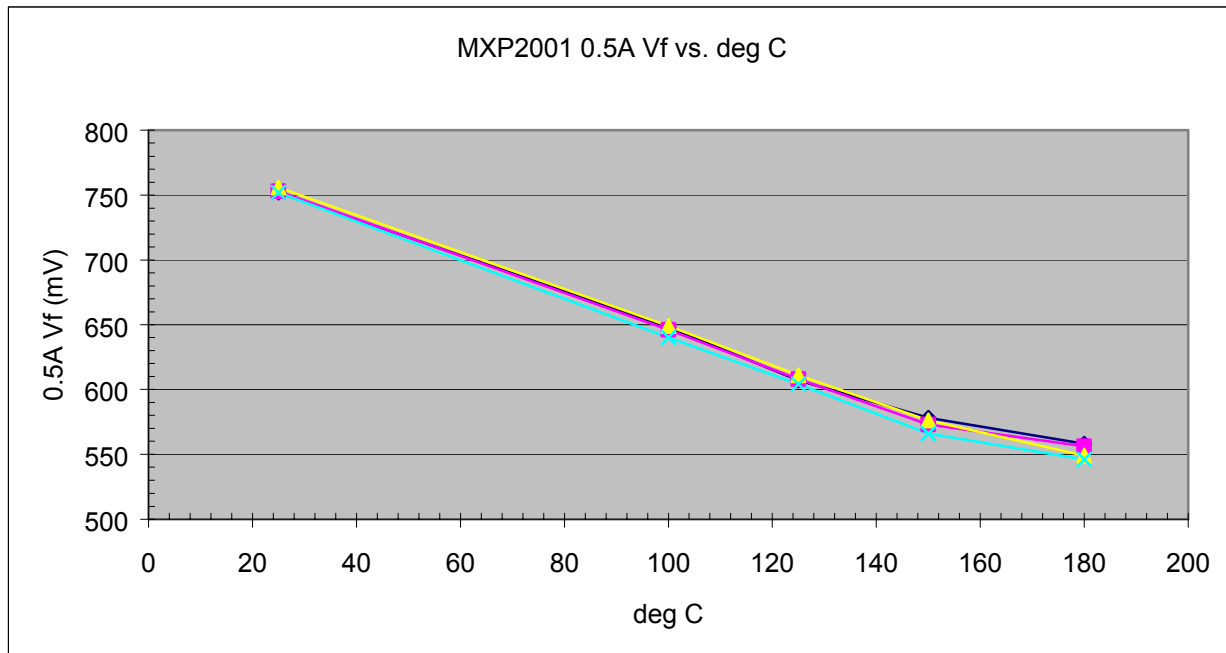
Typical forward voltage vs. forward current



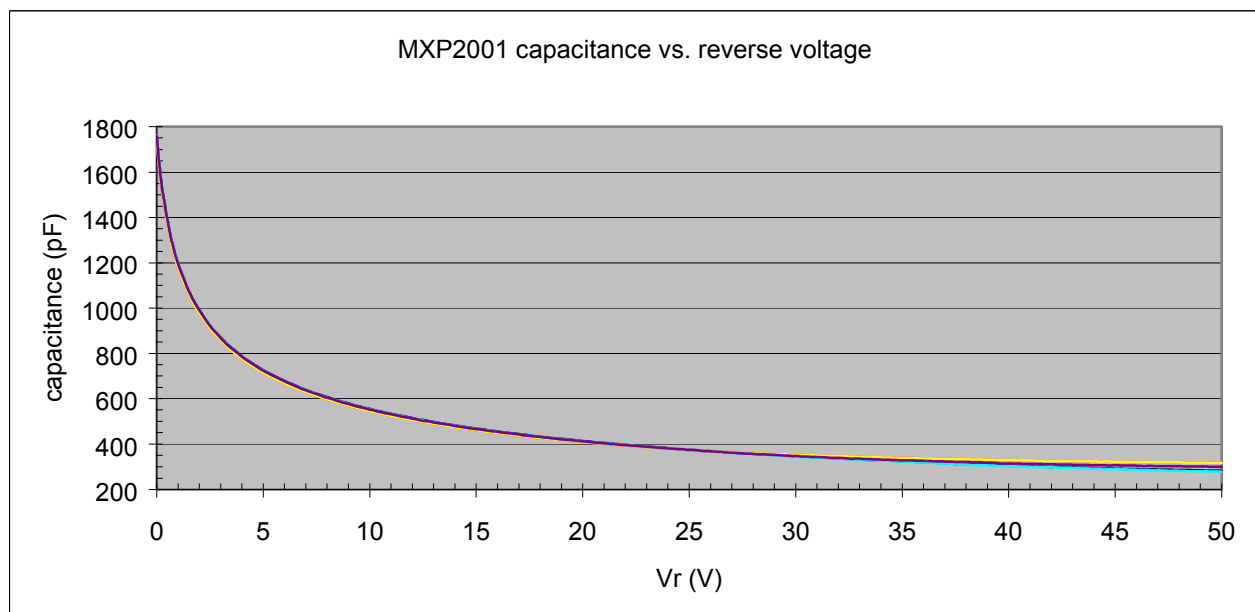
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Typical forward voltage vs. temperature



Typical capacitance vs. reverse voltage



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NOTES