

**Photovoltaic By-Pass Diode  
120 Volts, 2.25 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 (see graph for Vf vs. If). A version with attached leads is available.

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

**KEY FEATURES**

- Gold diffused for low forward voltage
- Epitaxial structure minimizes forward voltage drop
- Forward voltage decreases with radiation exposure
- Qualified for space applications
- Available in leaded configuration
- High voltage for series applications

**APPLICATIONS/BENEFITS**

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

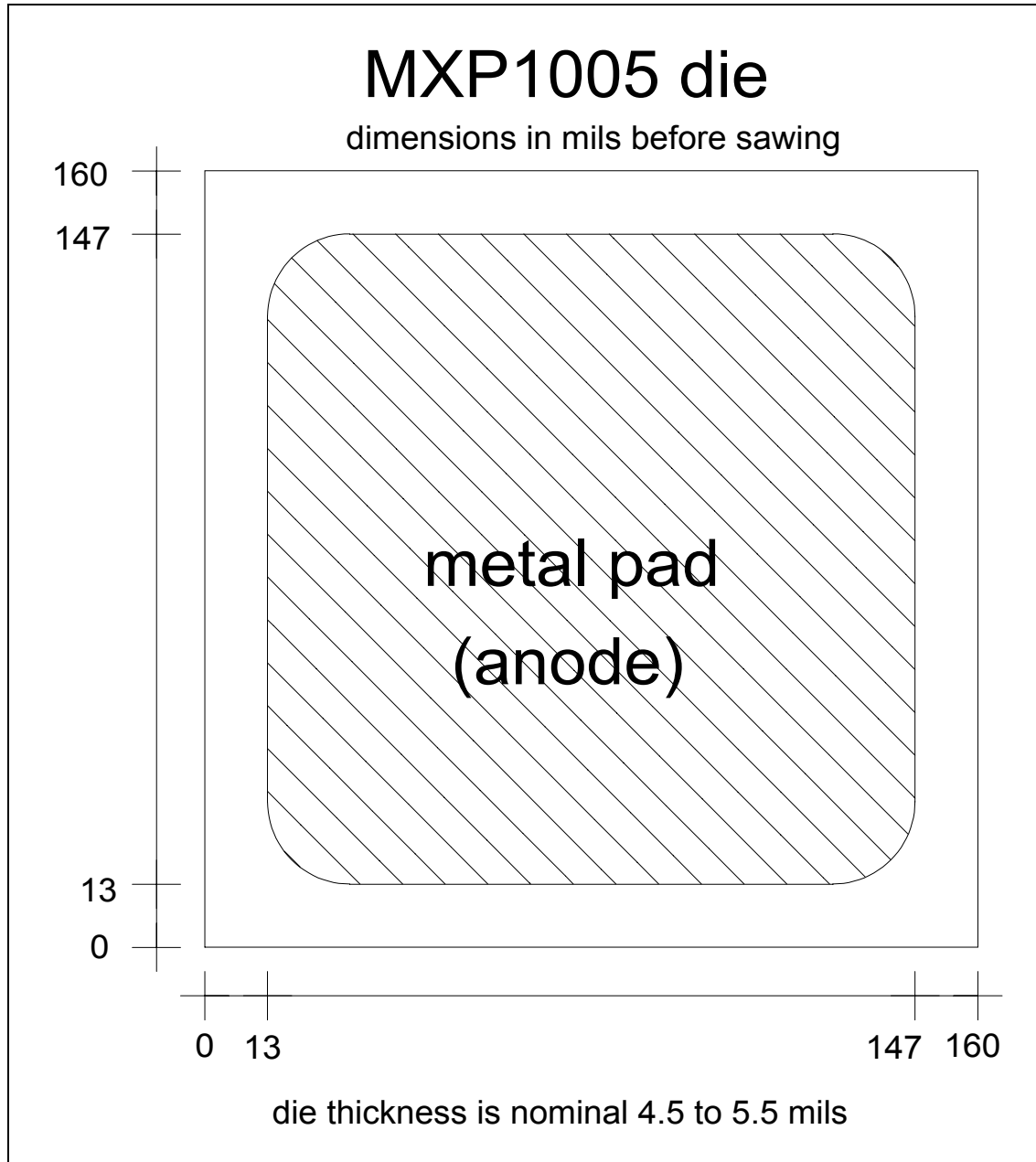
**MAXIMUM RATINGS @ 25°C (UNLESS OTHERWISE SPECIFIED)**

Description	Symbol	Max.	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	120	Volts
Working Peak Reverse Voltage	$V_{RWM}$	120	Volts
DC Blocking Voltage	$V_R$	120	Volts
Average Rectified Forward Current, $T_c \leq 135^\circ\text{C}$	$I_{F(ave)}$	2.25	Amps
Junction Temperature Range	$T_j$	-65 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-65 to +200	$^\circ\text{C}$

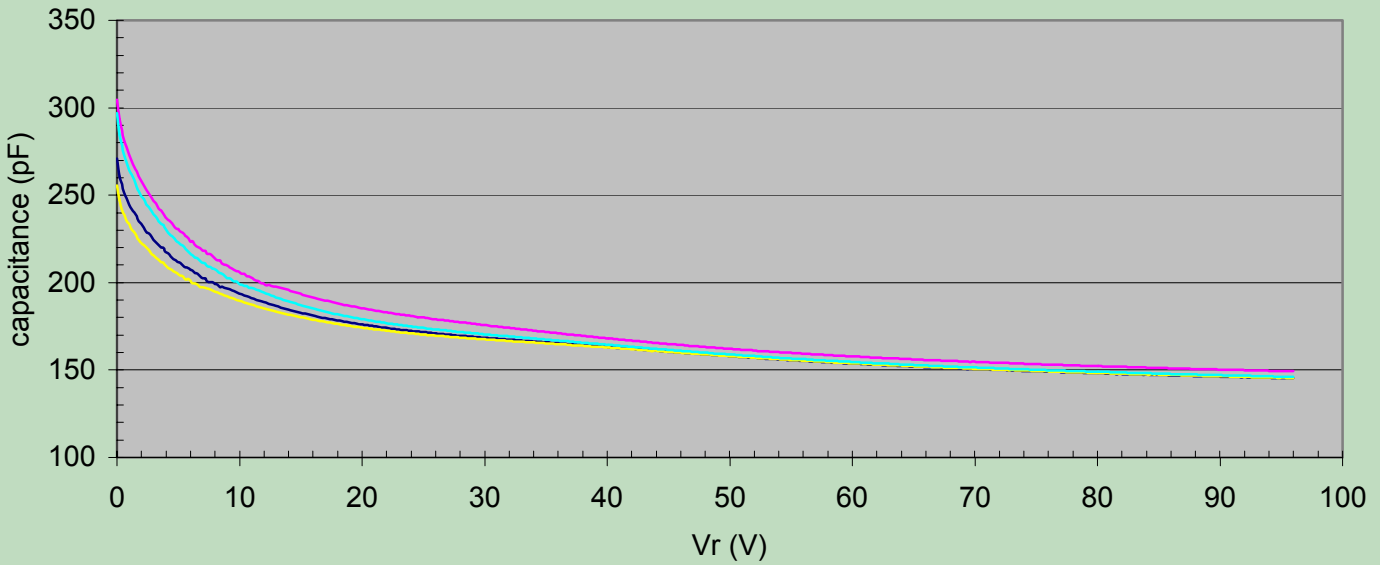
**ELECTRICAL PARAMETERS**

Description	Symbol	Conditions	Min	Typ.	Max	Unit
Reverse (Leakage) Current (in dark)	$IR_{25}$	$VR = 96 \text{ Vdc}, Ta = 25^\circ\text{C}$		2	10	$\mu\text{A}$
	$IR_{150}$	$VR = 96 \text{ Vdc}, Ta = 150^\circ\text{C}$		4	8	$\text{mA}$
Forward Voltage pulse test, $pw = 300 \mu\text{s}$	$VF1$	$IF = 2.25 \text{ A}, Ta = 25^\circ\text{C}$		720	840	$\text{mV}$
Junction Capacitance	$Cj1$	$VR = 4 \text{ Vdc}$		300	600	$\text{pF}$
Breakdown Voltage	$BVR$	$IR = 200 \mu\text{A}, Ta = 25^\circ\text{C}$	120	160		$\text{V}$

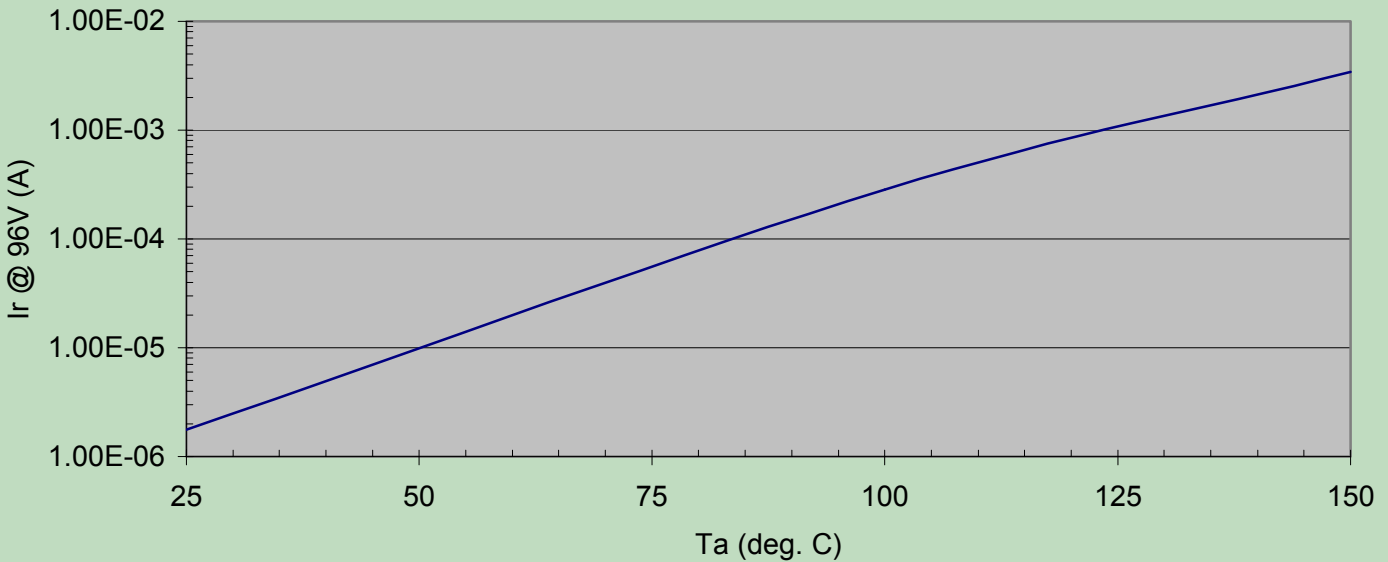
**Mechanical Outline**



MXP1005 typical capacitance vs. voltage

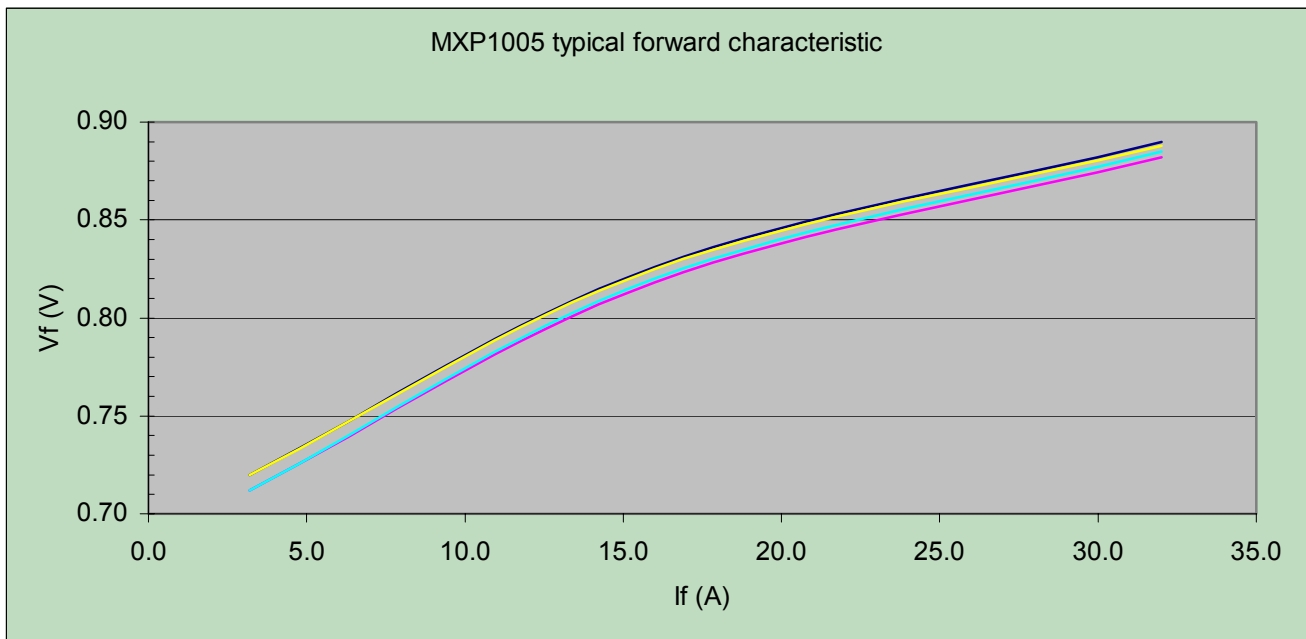


MXP1005 typical reverse current vs. temperature



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**NOTES**