Microsemi
SANTA ANA DIVISION

MXP1144

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.

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

KEY FEATURES

- Oxide passivated structure for very low leakage currents
- Epitaxial structure minimizes forward voltage drop
- Triangular shape to fit in corner near flat of photovoltaic cell
- Forward voltage decreases with radiation exposure
- Targeted for terrestrial applications with silicon photovoltaic cells
- Thin construction for fit with photovoltaic cells

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}	50	Volts
Working Peak Reverse Voltage	V_{RWM}	50	Volts
DC Blocking Voltage	V_R	50	Volts
Average Rectified Forward Current, Tc≤ 135°C	$I_{F(ave)}$	1.0	Amps
Junction Temperature Range	T_j	-65 to +150	°C
Storage Temperature Range	T_{stg}	-65 to +200	°C

ELECTRICAL PARAMETERS

Description	Symbol	Conditions	Min	Typ.	Max	Unit
Reverse (Leakage) Current (in dark)	IR_{25}	VR= 4 Vdc, Ta= 25°C		10		nA
	IR_{25}	VR= 50 Vdc, Ta= 25°C		20	200	nA
Forward Voltage	VF1	IF= 400 mA, Ta= 25°C		750	775	mV
pulse test, pw= 300 μs	VF2	IF= 1.0 A, Ta= 25°C		770	800	mV
Junction Capacitance	Cj1	VR= 4 Vdc		1050	1300	pF
Breakdown Voltage	BVR	IR= 200 μA, Ta= 25°C	50	90		V

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2830 South Fairview, Santa Ana, CA. 92704, 714-979-8220, Fax: 714-557-5989

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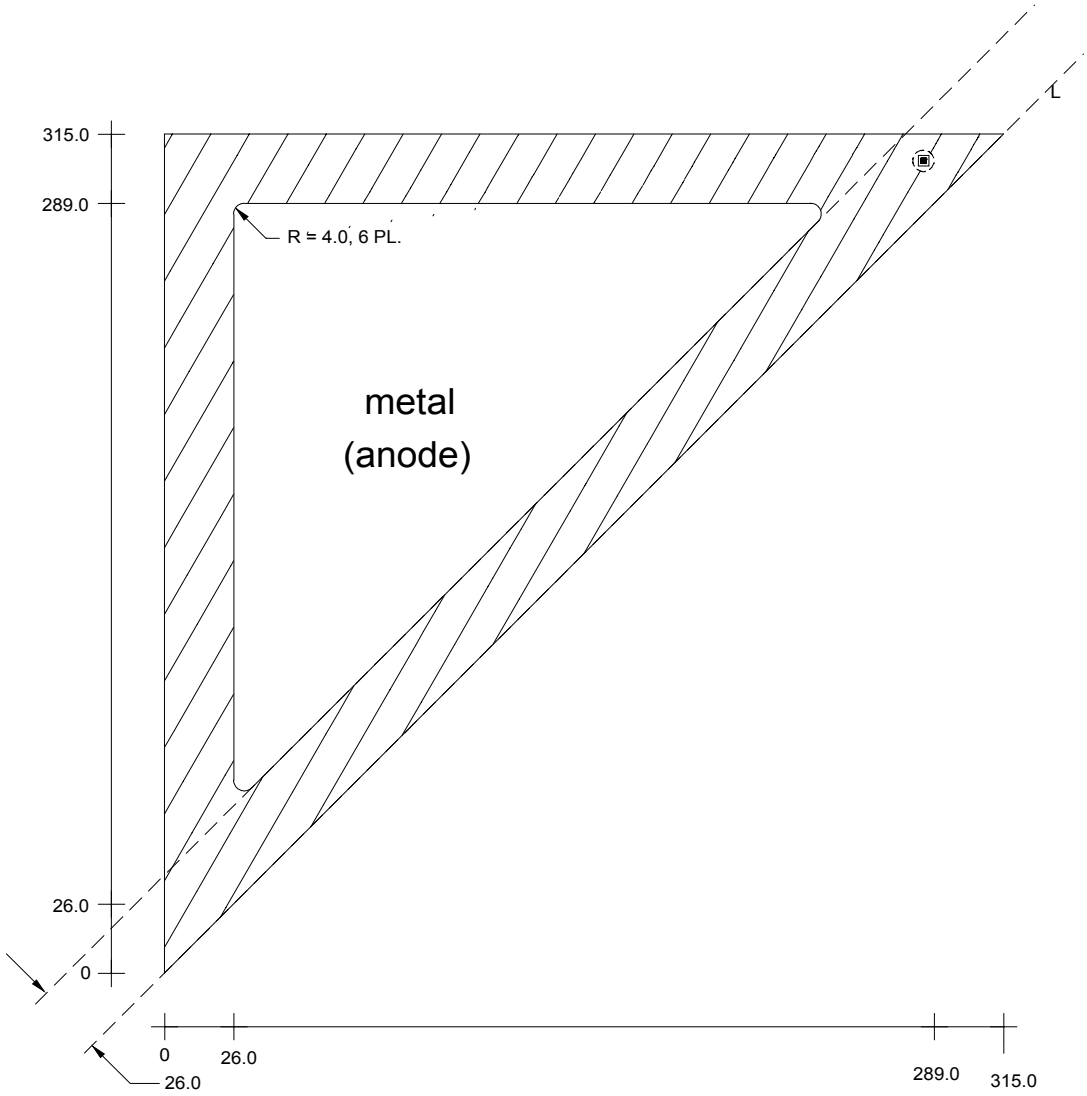
Mechanical Outline



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all dimensions in mils

Standard die thickness is 5.0 +/- 0.5 mils

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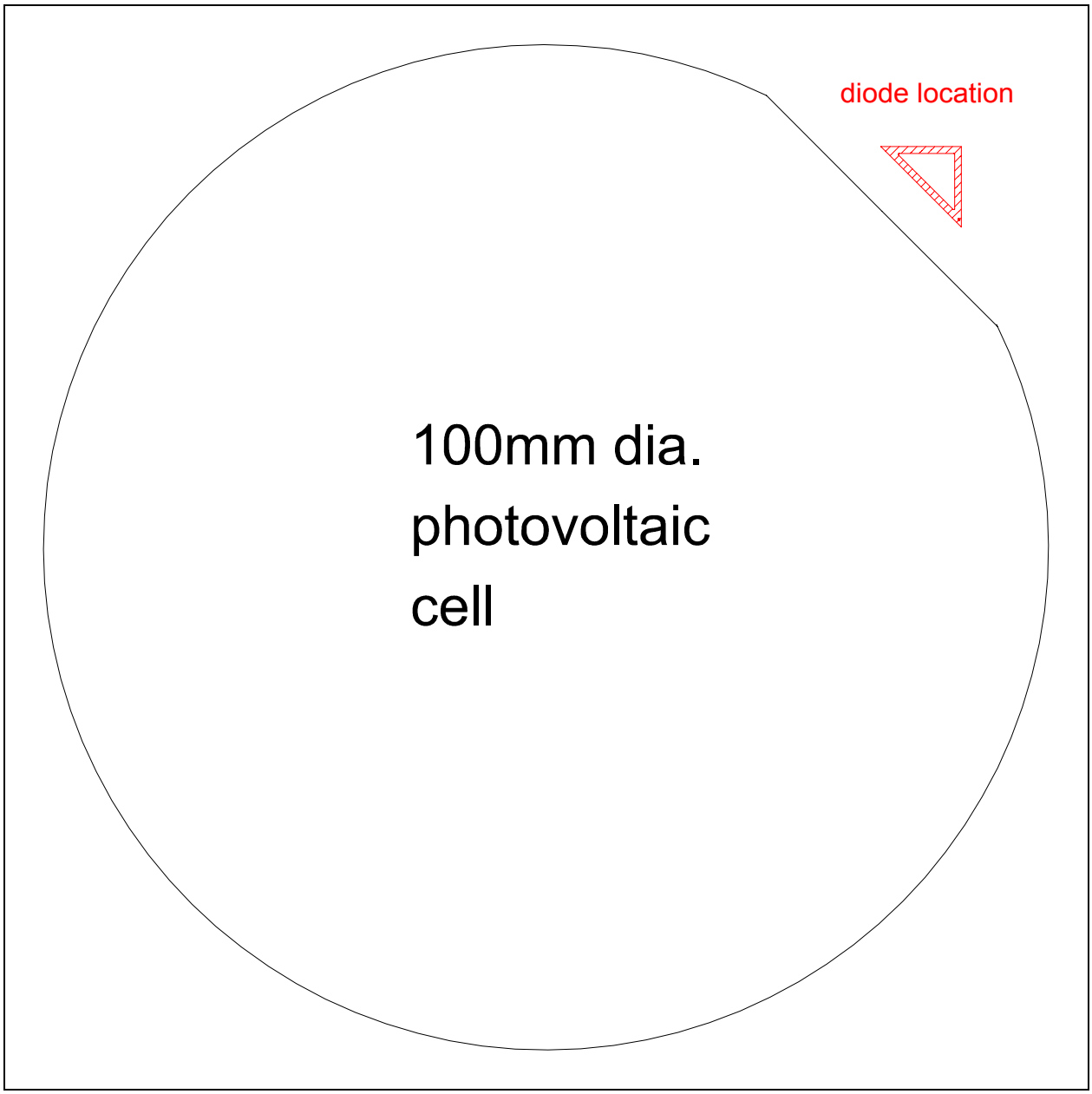
Typical location with 100mm diameter photovoltaic cell



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