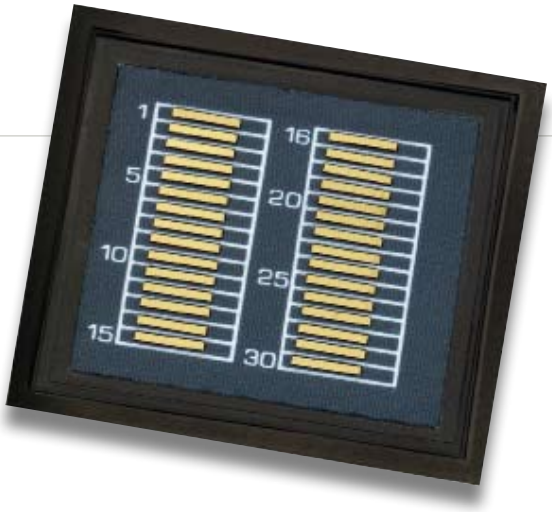
LASER DIODE BARS

20W CW

NORTHROP GRUMMAN



PART NUMBER: UMB200C020

LASER DIODE BAR

FEATURES AND BENEFITS

- Excellent Solderability

- Available With Any Silver or Golden Bullet® Configuration

- Lot Tested

- Available Wavelengths (790-980nm)

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
CW Power Output	25A at 25˚C Heat Sink	20	W
Operating Current	20W at 25˚C Heat Sink	25	A
Threshold Current	25˚C Heat Sink	8	A
Slope Efficiency	25˚C Heat Sink	1.15	W/A
Efficiency	20W at 25˚C Heat Sink	47	%
Number of Emitters	—	46	
Emitter Size	—	80x1	µm
Emitter Pitch	—	200	µm
Center Wavelength	20W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	20W at 25˚C Heat Sink	+/-3	nm
Spectral Width	20W at 25˚C Heat Sink	1.8	nm
Wavelength Shift	—	0.25	nm/˚C
Beam Divergence FWHM	—	38x7	˚x˚
Polarization	—	TE	

ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25˚C Heat Sink	0.004	ohms
Operating Voltage	25˚C Heat Sink, 20W	1.7	V

MECHANICAL CHARACTERISTICS

Parameter	Typical
Bar Width	9.6 mm
Bar Thickness	135 µm
Bar Cavity Length	1000 µm

NOTES

(1) These specifications apply for operation at 808nm. Other wavelengths available upon request.

(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

20W CW

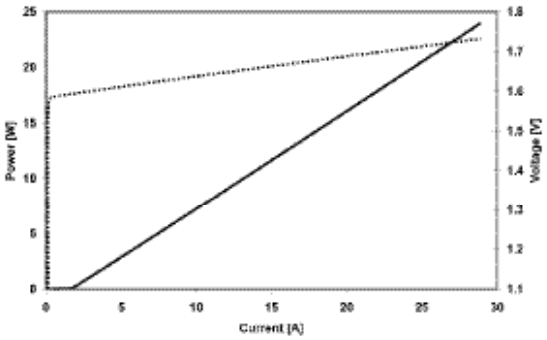
ABSOLUTE MAXIMUM RATINGS

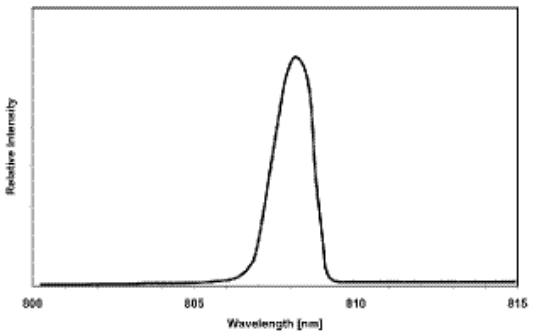
Parameter	Conditions
Reverse Current	0 A
Reverse Voltage	0 V
Operating Temperature Range	-40˚C to 70˚C
Storage Temperature Range	-40˚C to 85˚C

SOLDERING CHARACTERISTICS

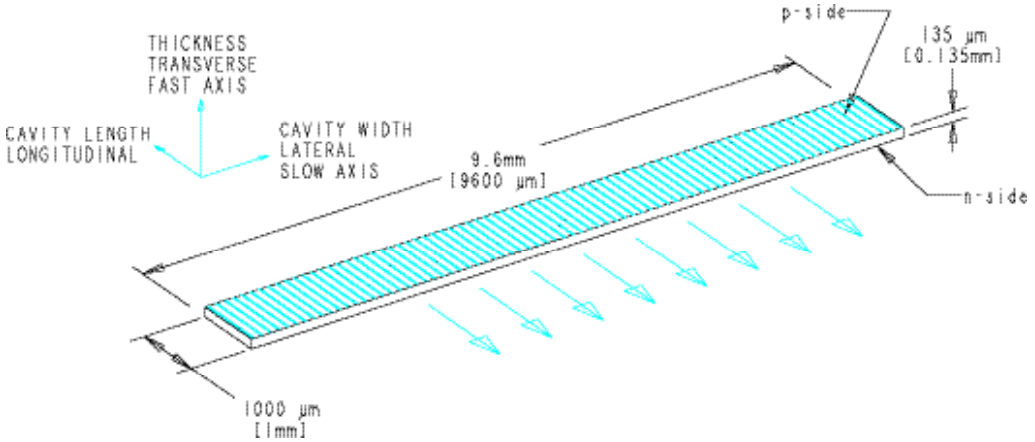
Parameter	Conditions
Metalization	1000 Å Au over Pt barrier

OPTICAL CHARACTERISTICS (TYPICAL)





MECHANICAL CHARACTERISTICS



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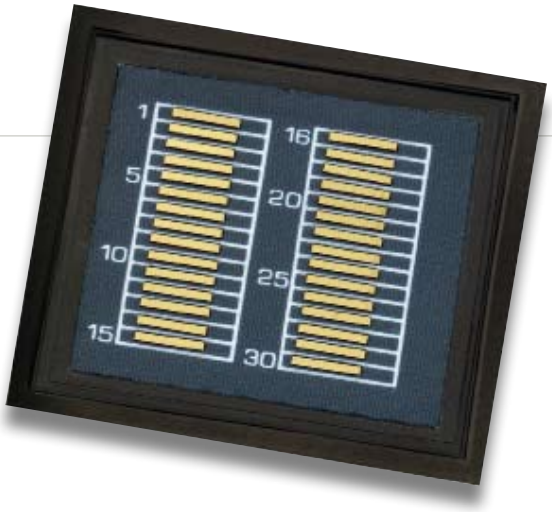
50W QCW

NORTHROP GRUMMAN



PART NUMBER: UMB404P050

LASER DIODE BAR

FEATURES AND BENEFITS

- Excellent Solderability

- Available With Any Silver or Golden Bullet® Configuration

- Lot Tested

- Available Wavelengths (790-980nm)

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	54A at 25˚C Heat Sink	50	W
Operating Current	50W at 25˚C Heat Sink	54	A
Threshold Current	25˚C Heat Sink	12	A
Slope Efficiency	25˚C Heat Sink	1.2	W/A
Efficiency	50W at 25˚C Heat Sink	50	%
Number of Emitters	—	69	
Emitter Size	—	90x1	µm
Emitter Pitch	—	133	µm
Center Wavelength	50W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	50W at 25˚C Heat Sink	+/-3	nm
Spectral Width	50W at 25˚C Heat Sink	1.6	nm
Wavelength Shift	—	0.25	nm/˚C
Beam Divergence FWHM	—	40x10	˚x˚
Polarization	—	TE	

ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25˚C Heat Sink	0.004	ohms
Operating Voltage	25˚C Heat Sink, 50W	1.8	V

MECHANICAL CHARACTERISTICS

Parameter	Typical
Bar Width	9.6 mm
Bar Thickness	135 µm
Bar Cavity Length	625 µm

NOTES

(1) These specifications apply for operation at 808nm. Other wavelengths available upon request.

(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

50W QCW

NORTHROP GRUMMAN

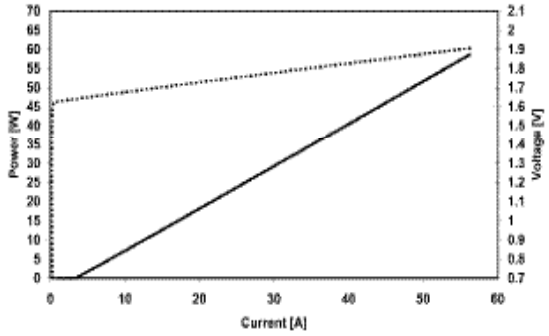
ABSOLUTE MAXIMUM RATINGS

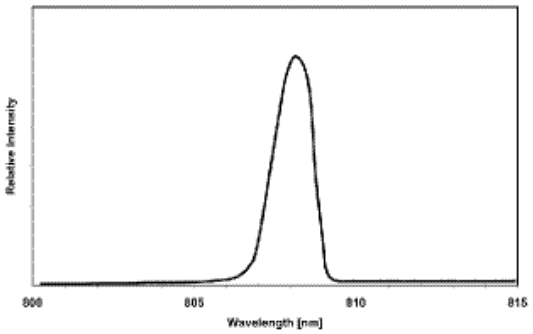
Parameter	Conditions
Reverse Current	0 A
Reverse Voltage	0 V
Operating Temperature Range	-40˚C to 70˚C
Storage Temperature Range	-40˚C to 85˚C

SOLDERING CHARACTERISTICS

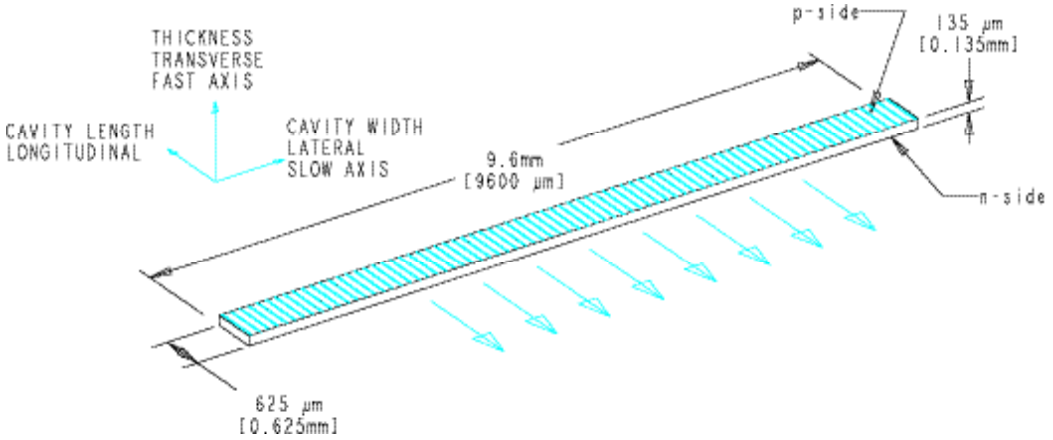
Parameter	Conditions
Metalization	1000 Å Au over Pt barrier

OPTICAL CHARACTERISTICS (TYPICAL)





MECHANICAL CHARACTERISTICS



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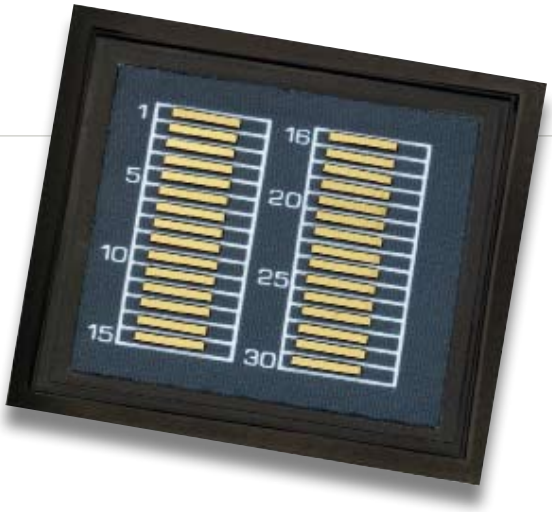
LASER DIODE BARS

40W CW

NORTHROP GRUMMAN



PART NUMBER: UMB500C040

LASER DIODE BAR

FEATURES AND BENEFITS

- Excellent Solderability

- Available With Any Golden Bullet® Configuration

- Lot Tested

- Available Wavelengths (790-980nm)

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
CW Power Output	47A at 25˚C Heat Sink	40	W
Operating Current	40W at 25˚C Heat Sink	47	A
Threshold Current	25˚C Heat Sink	12	A
Slope Efficiency	25˚C Heat Sink	1.15	W/A
Efficiency	40W at 25˚C Heat Sink	51	%
Number of Emitters	—	50	
Emitter Size	—	100x1	µm
Emitter Pitch	—	185	µm
Center Wavelength	40W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	40W at 25˚C Heat Sink	+/-3	nm
Spectral Width	40W at 25˚C Heat Sink	1.6	nm
Wavelength Shift	—	0.25	nm/˚C
Beam Divergence FWHM	—	38x7	˚x˚
Polarization	—	TE	

ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25˚C Heat Sink	0.002	ohms
Operating Voltage	25˚C Heat Sink, 40W	1.7	V

MECHANICAL CHARACTERISTICS

Parameter	Typical
Bar Width	9.6 mm
Bar Thickness	135 µm
Bar Cavity Length	1200 µm

NOTES

(1) These specifications apply for operation at 808nm. Other wavelengths available upon request.

(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

40W CW

NORTHROP GRUMMAN

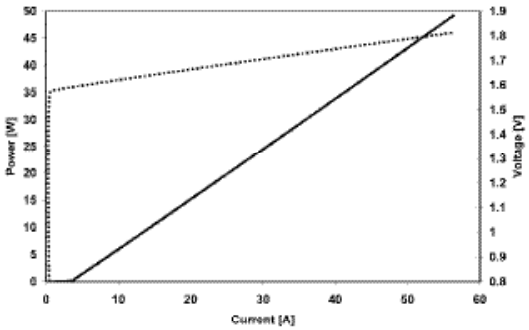
ABSOLUTE MAXIMUM RATINGS

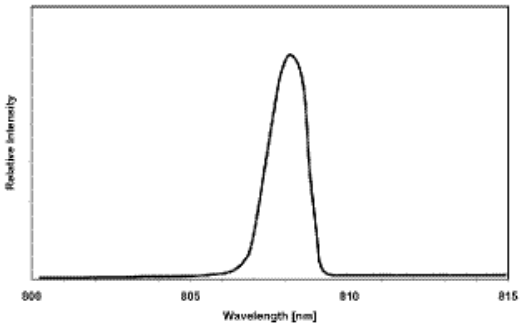
Parameter	Conditions
Reverse Current	0 A
Reverse Voltage	0 V
Operating Temperature Range	-40˚C to 70˚C
Storage Temperature Range	-40˚C to 85˚C

SOLDERING CHARACTERISTICS

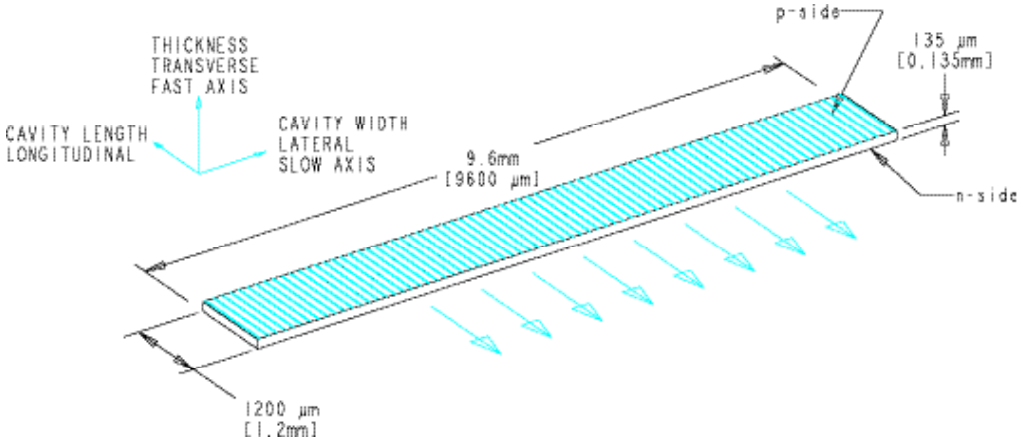
Parameter	Conditions
Metalization	1000 Å Au over Pt barrier

OPTICAL CHARACTERISTICS (TYPICAL)





MECHANICAL CHARACTERISTICS



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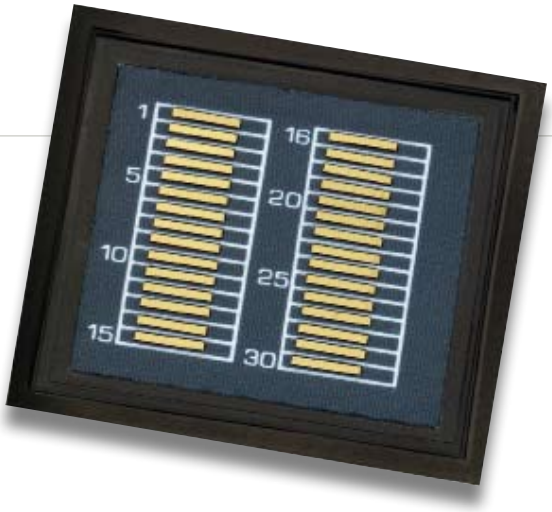
Rev. B 04/10

100W QCW

NORTHROP GRUMMAN



PART NUMBER: UMB700P100

LASER DIODE BAR

FEATURES AND BENEFITS

- Excellent Solderability

- Available With Any Golden Bullet® Configuration

- Lot Tested

- Available Wavelengths (790-980nm)

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	95A at 25˚C Heat Sink	100	W
Operating Current	100W at 25˚C Heat Sink	95	A
Threshold Current	25˚C Heat Sink	15	A
Slope Efficiency	25˚C Heat Sink	1.25	W/A
Efficiency	100W at 25˚C Heat Sink	58	%
Number of Emitters	—	52	
Emitter Size	—	150x1	µm
Emitter Pitch	—	180	µm
Center Wavelength	100W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	100W at 25˚C Heat Sink	+/-3	nm
Spectral Width	100W at 25˚C Heat Sink	2.0	nm
Wavelength Shift	—	0.25	nm/˚C
Beam Divergence FWHM	—	38x7	˚x˚
Polarization	—	TE	

ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25˚C Heat Sink	0.002	ohms
Operating Voltage	25˚C Heat Sink, 100W	1.8	V

MECHANICAL CHARACTERISTICS

Parameter	Typical
Bar Width	9.6 mm
Bar Thickness	135 µm
Bar Cavity Length	1000 µm

NOTES

(1) These specifications apply for operation at 808nm. Other wavelengths available upon request.

(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

100W QCW

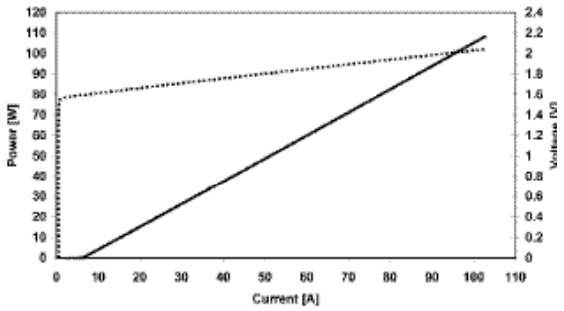
ABSOLUTE MAXIMUM RATINGS

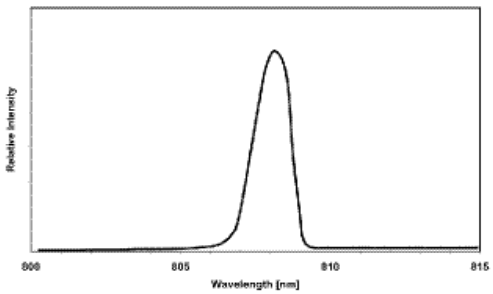
Parameter	Conditions
Reverse Current	0 A
Reverse Voltage	0 V
Operating Temperature Range	-40˚C to 70˚C
Storage Temperature Range	-40˚C to 85˚C

SOLDERING CHARACTERISTICS

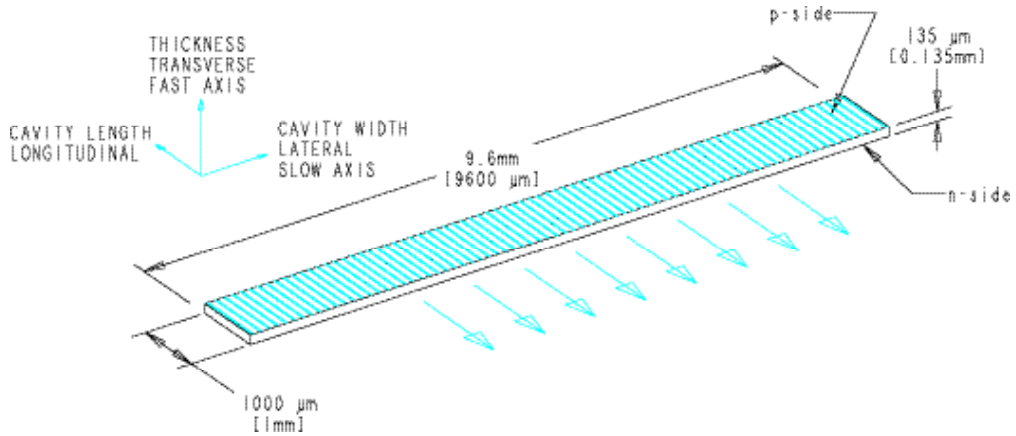
Parameter	Conditions
Metalization	1000 Å Au over Pt barrier

OPTICAL CHARACTERISTICS (TYPICAL)





MECHANICAL CHARACTERISTICS



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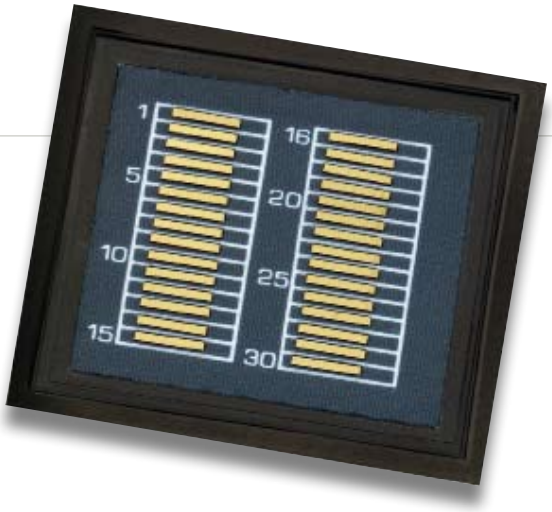
Rev. B 04/10

LASER DIODE BARS

200W QCW

NORTHROP GRUMMAN



PART NUMBER: UMB700P200

LASER DIODE BAR

FEATURES AND BENEFITS

- Excellent Solderability

- Available With Any Golden Bullet® Configuration

- Lot Tested

- Available Wavelengths (790-980nm)

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
QCW Power Output	175A at 25˚C Heat Sink	200	W
Operating Current	200W at 25˚C Heat Sink	175	A
Threshold Current	25˚C Heat Sink	15	A
Slope Efficiency	25˚C Heat Sink	1.25	W/A
Efficiency	200W at 25˚C Heat Sink	57	%
Number of Emitters	—	52	
Emitter Size	—	150x1	µm
Emitter Pitch	—	180	µm
Center Wavelength	200W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	200W at 25˚C Heat Sink	+/-3	nm
Spectral Width	200W at 25˚C Heat Sink	2.5	nm
Wavelength Shift	—	0.25	nm/˚C
Beam Divergence FWHM	—	38x7	˚x˚
Polarization	—	TE	

ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25˚C Heat Sink	0.002	ohms
Operating Voltage	25˚C Heat Sink, 200W	2.0	V

MECHANICAL CHARACTERISTICS

Parameter	Typical
Bar Width	9.6 mm
Bar Thickness	135 µm
Bar Cavity Length	1000 µm

NOTES

(1) These specifications apply for operation at 808nm. Other wavelengths available upon request.

(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

200W QCW

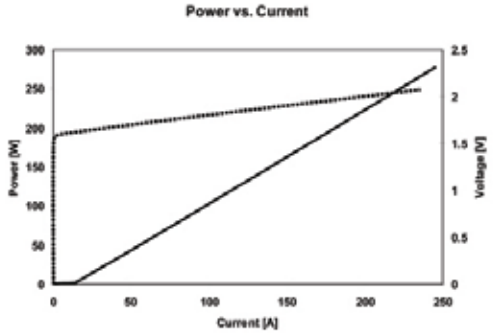
ABSOLUTE MAXIMUM RATINGS

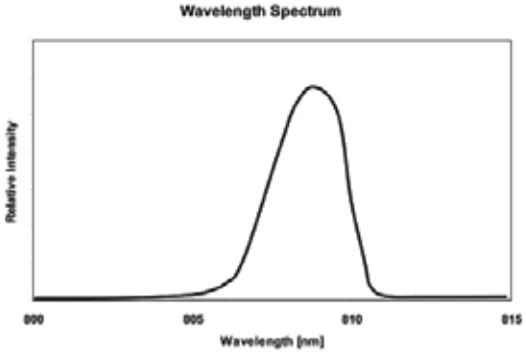
Parameter	Conditions
Reverse Current	0 A
Reverse Voltage	0 V
Operating Temperature Range	-40˚C to 70˚C
Storage Temperature Range	-40˚C to 85˚C

SOLDERING CHARACTERISTICS

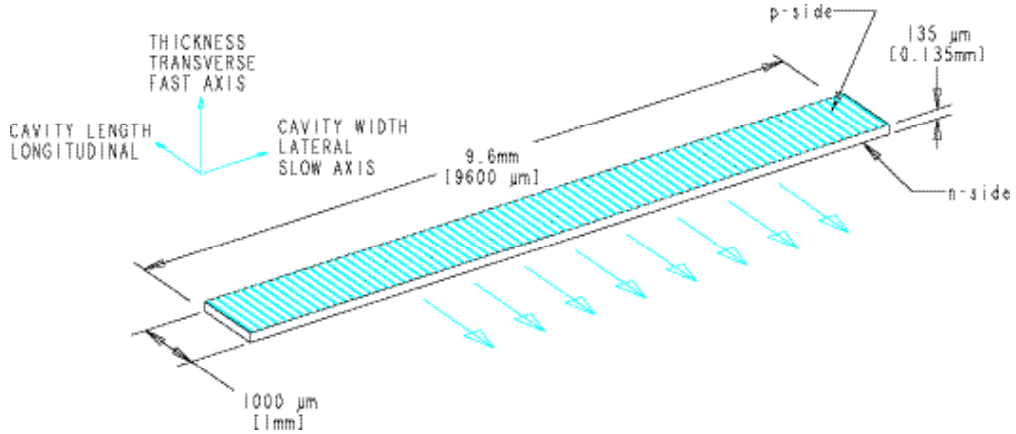
Parameter	Conditions
Metalization	1000 Å Au over Pt barrier

OPTICAL CHARACTERISTICS (TYPICAL)





MECHANICAL CHARACTERISTICS



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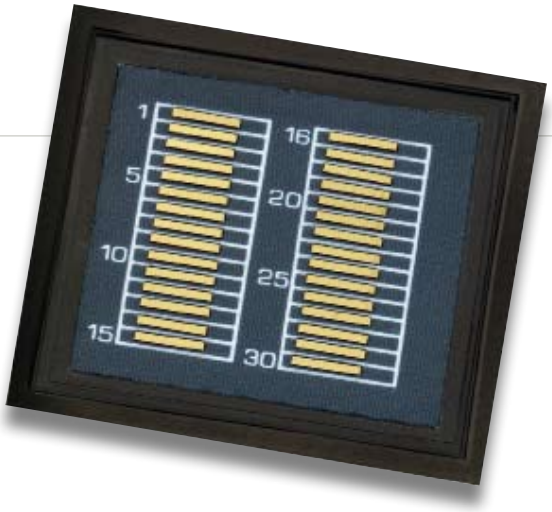
Rev. B 04/10

LASER DIODE BARS

100W CW

NORTHROP GRUMMAN



PART NUMBER: UMB800C100

LASER DIODE BAR

FEATURES AND BENEFITS

- Excellent Solderability

- Available With Any Mircochannel Cooled Configuration

- Lot Tested

- Available Wavelengths (790-980nm)

OPTICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
CW Power Output	112A at 25˚C Heat Sink	100	W
Operating Current	100W at 25˚C Heat Sink	112	A
Threshold Current	25˚C Heat Sink	16	A
Slope Efficiency	25˚C Heat Sink	1.05	W/A
Efficiency	100W at 25˚C Heat Sink	50	%
Number of Emitters	—	25	
Emitter Size	—	200x1	µm
Emitter Pitch	—	365	µm
Center Wavelength	100W at 25˚C Heat Sink	808	nm
Wavelength Tolerance	100W at 25˚C Heat Sink	+/-3	nm
Spectral Width	100W at 25˚C Heat Sink	1.5	nm
Wavelength Shift	—	0.25	nm/˚C
Beam Divergence FWHM	—	40x10	˚x˚
Polarization	—	TE	

ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Typical	Units
Series Resistance	25˚C Heat Sink	0.002	ohms
Operating Voltage	25˚C Heat Sink, 100W	1.8	V

MECHANICAL CHARACTERISTICS

Parameter	Typical
Bar Width	9.6 mm
Bar Thickness	135 µm
Bar Cavity Length	2000 µm

NOTES

(1) These specifications apply for operation at 808nm. Other wavelengths available upon request.

(2) A dry nitrogen environment should be provided by the user when storing and operating at temperatures below ambient dew point.

100W CW

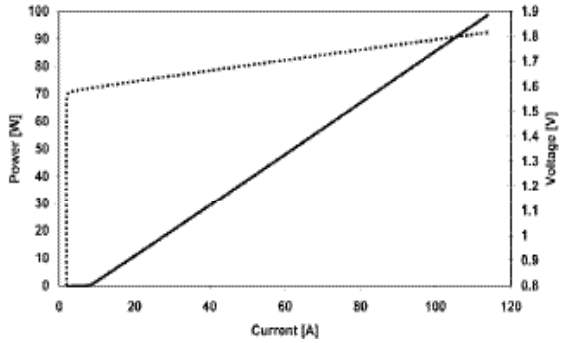
ABSOLUTE MAXIMUM RATINGS

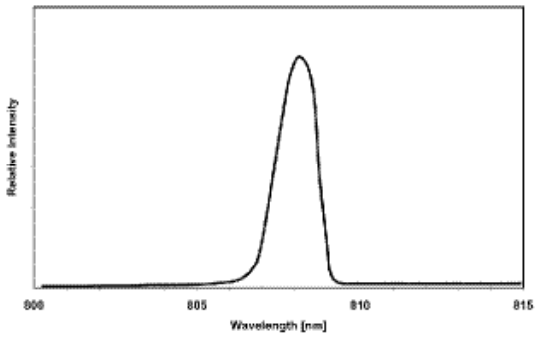
Parameter	Conditions
Reverse Current	0 A
Reverse Voltage	0 V
Operating Temperature Range	-40˚C to 70˚C
Storage Temperature Range	-40˚C to 85˚C

SOLDERING CHARACTERISTICS

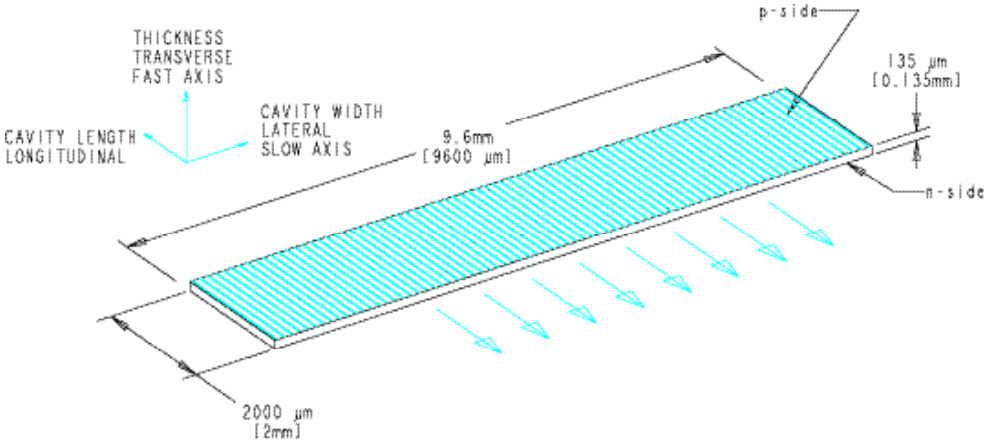
Parameter	Conditions
Metalization	1000 Å Au over Pt barrier

OPTICAL CHARACTERISTICS (TYPICAL)





MECHANICAL CHARACTERISTICS



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