MRV Communications, Inc.

MARVEL SERIES 7L3
OC-3
SINGLEMODE TRANSMITTER

THE SOURCE FOR YOUR SOURCE

FEATURES

- 1300/1550 NM Wavelength
- For Singlemode Applications
- Data Rate upto 155 Mb/s
- Sonet Compatible
- Low power consumption
- Standard +5V or -5V Power Supply
- 20 Pin Dip Package with FC,ST or Pigtail
- Standard ECL Interface

TRANSMITTER CHARACTERISTICS (T= -40°C TO +85°C)

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Wavelength (LR)	λ	1280	1310	1335	nm
Spectral Width (LR)	$\Delta\lambda$		2	4	nm
Wavelength (IR)	λ	1260	1310	1360	nm
Spectral Width(IR)	$\Delta\lambda$		2	7	nm
Output Power (Average)	P_0	SEE CHART BELOW			
Wavelength (LR)	λ	1508	1550	1580	nm
Spectral Width (LR)	$\Delta\lambda$		1	2.5	nm
Wavelength(IR)	λ	1480	1550	1569	nm
Spectral Width (IR)	$\Delta\lambda$		1	2.5	nm
Output Power (Average)	P_0	SEE CHART BELOW			
Transmit Disable Voltage	Vd	Vcc-2.0		Vcc	V
Extinction Ratio		10			dB
Supply Voltage	Vcc-Vee	4.75	5.0	5.5	V
Supply Current	Iee		70	140	mA
Input Data Voltage-High	V_{IH}	Vcc-1.18		Vcc-0.75	V
Input Data Voltage-Low	V_{IL}	Vcc-1.94		Vcc-1.5	V
Laser Bias Monitor Voltage		0.001		0.95	V
Back Facet Monitor Voltage		0.015		0.7	V
Eye Diagram	Per CCITT G.957				

NOTE: All Parameters are specified at OC-3

AVERAGE OUTPUT POWER (T= -40°C to +85°C, 50% DUTY CYCLE)

Part Number 1300 nm Singlemode	Min	Typ	Max	Unit	Part Number 1550 nm Singlemode	Min	Typ	Max	Unit
MRTL**xx**0003(IR)	.03	.05	.16	mW	MRTL**XX**50003(IR)	.03	.05	.16	mW
MRTL**XX**001	0.1	0.2	0.4	mW	MRTL**xx**5001	0.1	0.2	0.4	mW
MRTL**XX**003(LR)	0.3	0.5	1.0	mW	MRTL**XX**5003(LR)	0.3	0.5	1.0	mW
MRTL**XX**005	0.5	1.0	2.0	mW	MRTL**XX**5005	0.5	1.0	2.0	mW
MRTL**XX**010	1.0	1.5	2.0	mW					

XX = *SP- Singlemode Pigtail, ST- Singlemode ST, FC- Singlemode FC,*

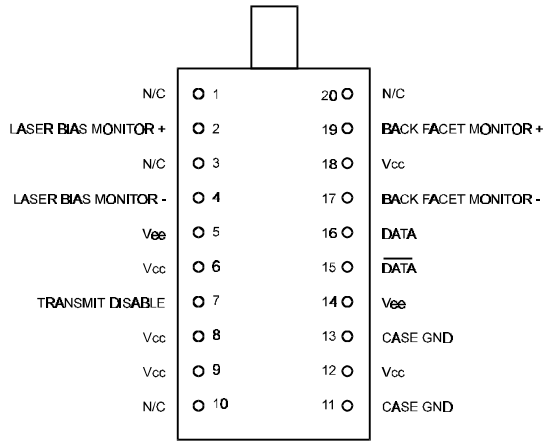
ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage	Vcc-Vee	6.0	VOLTS
Lead Soldering Temp		260	°C
Lead Soldering Time		10	SECONDS
Operating Temp		-40 to +85*	°C
Storage Temp		-40 to +85	°C

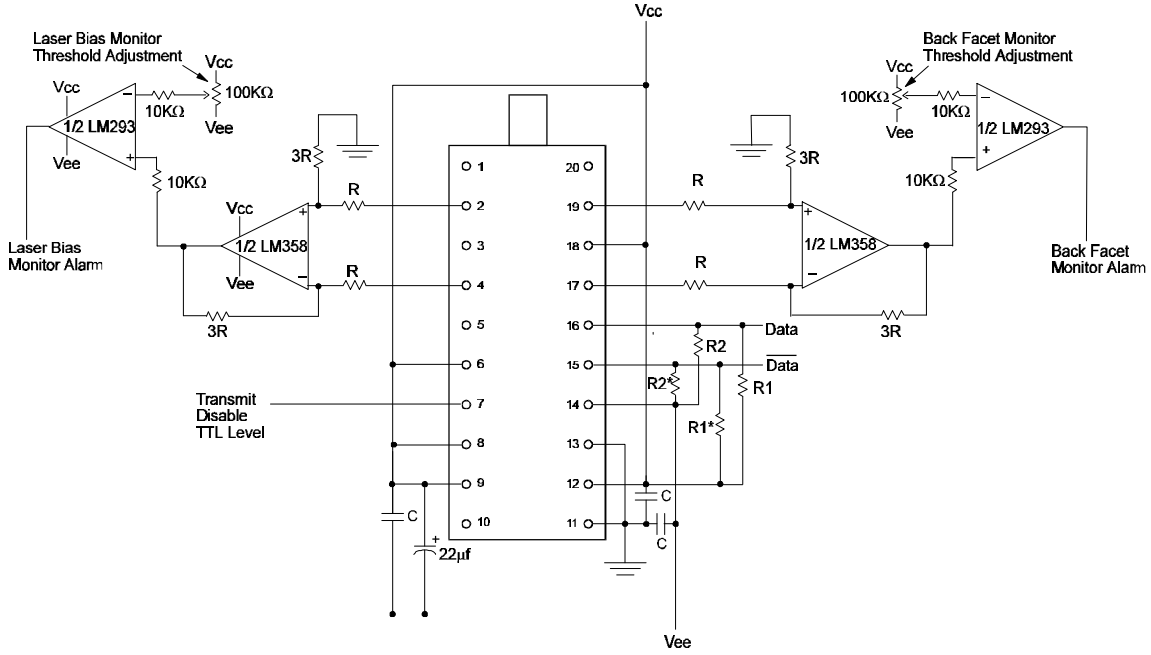
* FOR 1300 NM ONLY

Pinout Diagram

Top View

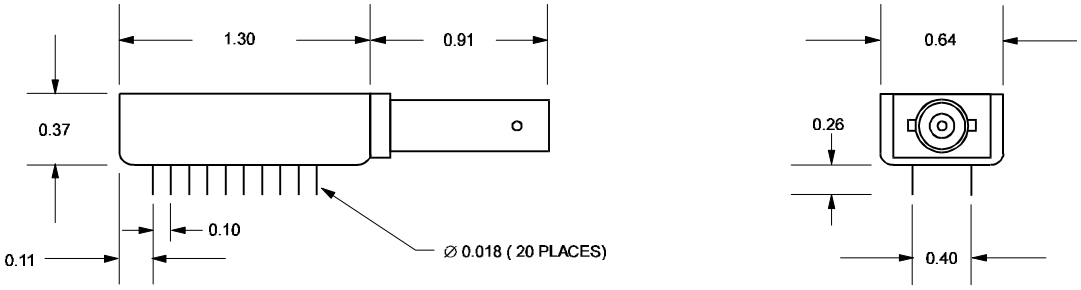


Application Circuit

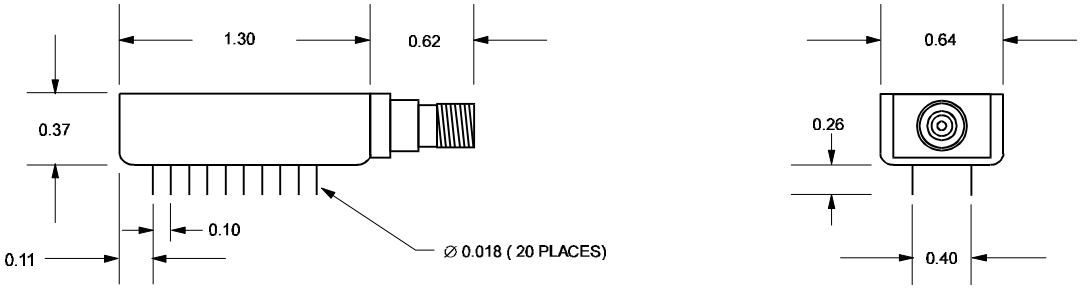


R = 10KΩ, R1 = R1* = 1.6 Z_0 , R2 = R2* = 2.6 Z_0, (For Short Line Z_0 = 50Ω) C= 0.1µF

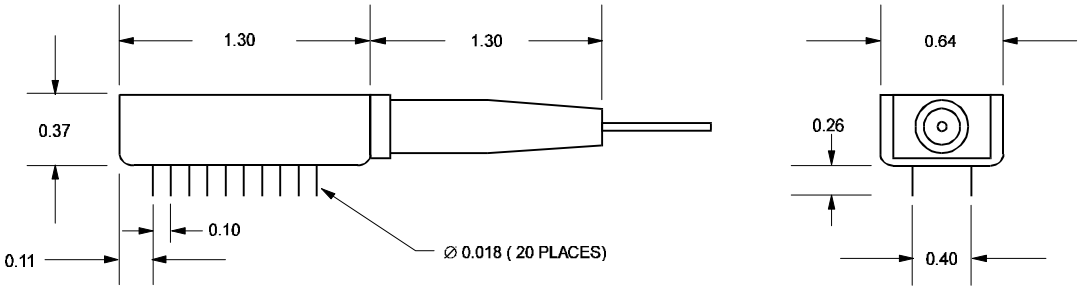
Package Style “ST”



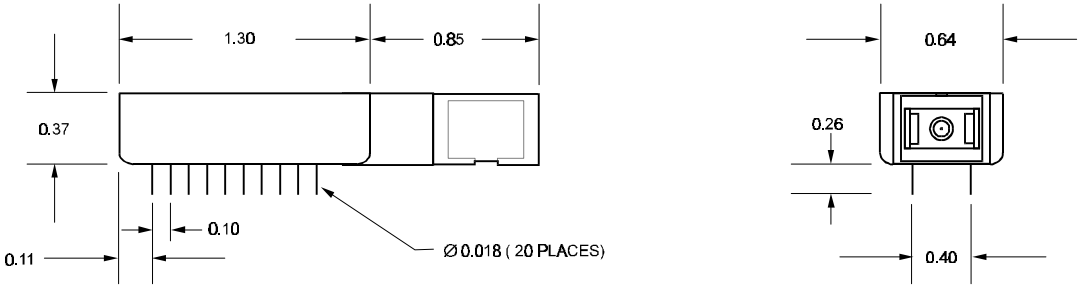
Package Style “FC”



Package Style “SP”



Package Style “SC”



Ordering Information

Part Number(1310nm)	Termination	Temperature Rating
MRTLSPxxx-7L3-A	None	0°C to +65°C
MRTLSPxxx-7L3-B	None	-40°C to +85°C
MRTLSPxxx-7L3-C	ST	0°C to +65°C
MRTLSPxxx-7L3-D	ST	-40°C to +85°C
MRTLSPxxx-7L3-E	FC	0°C to +65°C
MRTLSPxxx-7L3-F	FC	-40°C to +85°C
MRTLSPxxx-7L3-G	SC	0°C to +65°C
MRTLSPxxx-7L3-H	SC	-40°C to +85°C
MRTLSTxxx-7L3-I	None	0°C to +65°C
MRTLSTxxx-7L3-J	None	-40°C to +85°C
MRTLFCxxx-7L3-K	None	0°C to +65°C
MRTLFCxxx-7L3-L	None	-40°C to +85°C
MRTLSPxxx-7L3-M	DIN	0°C to +65°C
MRTLSPxxx-7L3-N	DIN	-40°C to +85°C
MRTLSCxxx-7L3-O	None	0°C to +65°C
MRTLSCxxx-7L3-P	None	-40°C to +85°C

xxx = Output Power from Chart

Part Number(1550nm)	Termination	Temperature Rating
MRTLSP5xxx-7L3-A	None	0°C to +65°C
MRTLSP5xxx-7L3-B	None	-40°C to +85°C
MRTLSP5xxx-7L3-C	ST	0°C to +65°C
MRTLSP5xxx-7L3-D	ST	-40°C to +85°C
MRTLSP5xxx-7L3-E	FC	0°C to +65°C
MRTLSP5xxx-7L3-F	FC	-40°C to +85°C
MRTLSP5xxx-7L3-G	SC	0°C to +65°C
MRTLSP5xxx-7L3-H	SC	-40°C to +85°C
MRTLST5xxx-7L3-I	None	0°C to +65°C
MRTLST5xxx-7L3-J	None	-40°C to +85°C
MRTLFC5xxx-7L3-K	None	0°C to +65°C
MRTLFC5xxx-7L3-L	None	-40°C to +85°C
MRTLSP5xxx-7L3-M	DIN	0°C to +65°C
MRTLSP5xxx-7L3-N	DIN	-40°C to +85°C
MRTLSC5xxx-7L3-O	None	0°C to +65°C
MRTLSC5xxx-7L3-P	None	-40°C to +85°C

CLASS 1 DEVICE. THIS PRODUCT CONFORMS TO APPLICABLE REQUIREMENTS OF 21 CFR 1040 AT THE DATE OF MANUFACTURE(CDRH). THIS PRODUCT ALSO MEETS THE REQUIREMENTS OF EN 60950 AND EN 60825 (TUV). APPLICABLE TO DEVICES WITH MAXIMUM OUTPUT POWER OF 1mW.