TRANSCEIVERS

SFP Transceivers

10-Gb/s Singlemode Modules

258-SFPC10G4310 | controls | SFP Transceiver Module ● SFP+ ● 10Gb/s● LC ● 1310 nm ● 10 km ● DDM

CHARACTERISTICS

Applications:	up to 11.3 Gb/s (10GBASE-LR/LW, SDH STM64).		
Performance:	data transmission rate:	10.3125 Gb/s	
	transmission distance:	10 km (9-µm singlemode optical fiber);	
General construction:	format:	SFP+ footprint;	
	light source:	1310-nm DFB laser;	
	plugging:	hot-pluggable;	
	connector type:	duplex LC;	
	encasing:	metal, EMI-screening.	
Electrical:	supply voltage:	3.135 V–3.465 V, 3.3 V typ;	
	limit supply voltage:	min:	-0.5 V;
		max:	3.6 V;
	supply current:	360 mA max.	
	power consumption:	1.2 W max;	
	grounding:	circuit/chassis grounds internally isolated.	
	TRANSMITTER:		
	single-ended input voltage tolerance:	min:	-0.3 V;
		max:	4 V;
	AC CM input voltage tolerance:	15 mV RMS min;	
	differential input voltage swing:	min:	180 mVpp;
		max:	700 mVpp;
	transmit disable assert time:	10 µs max;	
	differential input impedance[1]:	min:	90 Ohm;
		typ:	100 Ohm;
		max:	110 Ohm;
	transmit disable voltage:	min:	Vcc-1.3 V;
		max:	Vcc;
	transmit enable voltage[2]:	min:	Vee;
		max:	Vee+0.8 V.
	RECEIVER:		
	differential output voltage swing:	min:	300 mVpp;
		max:	850 mVpp
	differential output impedance[3]:	min:	90 Ohm;
		typ:	100 Ohm;
		max:	110 Ohm;
	data output rise and fall time[4]:	28 ps min;	
	LOS assert voltage[5]:	min:	Vcc-1.3 V;
		max:	Vcc;
	LOS de-assert voltage[5]:	min:	Vee;
		max:	Vee+0.8 V;
	power supply rejection[6]:	100 mVpp min;	
Optical:	TRANSMITTER:		
	center wavelength[7]:	min:	1260 nm;
		typ:	1310 nm;
		max:	1355 nm;
	average optical power[8]:	min:	-6 dBm;
		max:	-0.5 dBm;
	off output power:	-30 dBm max;	
	spectral width:	1 nm max;	
	side mode suppression ratio:	30 dB min;	
	extinction ratio:	3.5 dB min;	
	eye mask:	IEEE 802.3ae.	
	RECEIVER:		
	center wavelength:	min:	1270 nm;
		max:	1610 nm;
	sensitivity (average power)[9]:	-14.4 dBm max;	
	input saturation power (overload):	0.5 dBm min;	
	damage threshold:	5 dBm;	
	LOS de-assert:	-17 dBm max;	
	LOS assert:	-30 dBm min;	
	LOS hysteresis	0.5 dB min.	
Environmental:	case operating temperature:	min:	0 °C (32 °F);
		max:	70 °C (158 °F);
	storage temperature:	min:	-40 °C (-40 °F);
		max:	85 °C (185 °F).
	operating humidity:	85 % RH max, non-condensing.	
Mechanical:	dimensions comply with the SFP+ Multi-Source Agreement (MSA) specifications.		
Compliance:	SFF8472 Management Interface for SFP+. European Directive 2002/95/EC (RoHS).		
Compatibility:	Cisco Systems tagged.		

[1] Connected directly to Tx data input pins, AC-coupled thereafter.

[2] Or open circuit.

[3] Input 100-Ohm differential termination.

[4] Unfiltered 20–80% values.

[5] Loss of Signal is LVTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected.

[6] Receiver sensitivity is compliant with power supply sinusoidal modulation of 20 Hz to 1.5 MHz up to specified value.

[7] Class 1 Laser Safety per FDA/CDRH and IEC-825-1 regulations.

[8] Launched power (average) is power coupled into a singlemode fiber with master connector.

[9] Measured with 1310-nm light source, ER=3.5 dB, BER=<10^{-12} @ 10.3125 Gb/s, PRBS=2^{31}-1 NRZ.