Marktech Optoelectronics

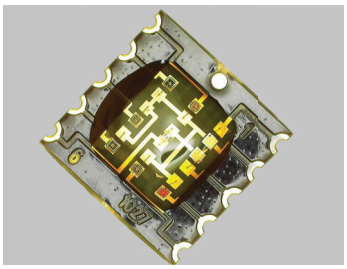
Preliminary

Multichip Emitter

Product No: **MTSA - 2595**

Peak Emission Wavelengths: 365, 460, 527, 570, 630, 780, 850, 940, 1200nm

The MTSA - 2595 is a multi-chip emitter designed for applications requiring various emission sources in a small, densley packaged area. These devices can be custom designed for specific wavelengths and outputs.



FEATURES

> 0.3x0.3in FR-4 COB(Chip on board) package
> Various Wavelength Combinations Available
> High Output Power

APPLICATIONS

> Spectroscopy
> Medical / Chemical Analysis
> Biofluorescense Analysis

Absolute Maximum Ratings (Ta=25ºC)

ITEMS	SYMBOL	RATINGS									UNIT
		365	460	527	570	630	780	850	940	1200	
Forward Current (DC)	IF	25	50	50	50	30	50	80	60	50	mA
Forward Current (Pulse) *1	IFP	100	400	400	100	80	500	500	500	100	mA
Reverse Voltage	VR	5	5	5	5	5	5	5	5	5	V
Power Dissipation	PD	100	60	60	180	80	120	180	100	100	mW
Operating Temperature Range	Topr	-20~+60									ºC
Storage Temperature Range	Tstg	-30~+85									ºC
Junction Temperature	Tj	--									ºC

Note*1: Tw=10µsec, T=10msec

Electrical & Optical Characteristics (Ta=25ºC)

ITEMS	SYMBOL	WAVELENGTH	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	365	IF=20mA	--	3.70	--	V
Forward Voltage	VF	460	IF=20mA	--	2.76	--	V
Forward Voltage	VF	527	IF=20mA	--	2.47	--	V
Forward Voltage	VF	570	IF=20mA	--	2.04	--	V
Forward Voltage	VF	630	IF=20mA	--	1.93	--	V
Forward Voltage	VF	780	IF=20mA	--	1.59	--	V
Forward Voltage	VF	850	IF=20mA	--	1.42	--	V
Forward Voltage	VF	940	IF=20mA	--	1.39	--	V
Forward Voltage	VF	1200	IF=20mA	--	1.02	--	V

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Electrical & Optical Characteristics (Ta=25ºC)

ITEMS	SYMBOL	WAVELENGTH	CONDITIONS	MIN	TYP	MAX	UNIT
Power Output	PO	365	IF=20mA	--	0.25	--	mW
Power Output	PO	460	IF=20mA	--	11.55	--	mW
Power Output	PO	527	IF=20mA	--	8.56	--	mW
Power Output	PO	570	IF=20mA	--	0.48	--	mW
Power Output	PO	630	IF=20mA	--	4.94	--	mW
Power Output	PO	780	IF=20mA	--	6.36	--	mW
Power Output	PO	850	IF=20mA	--	6.86	--	mW
Power Output	PO	940	IF=20mA	--	6.19	--	mW
Power Output	PO	1200	IF=20mA	--	2.92	--	mW
Peak Emission Wavelength	λp	365	IF=20mA	--	370	--	nm
Peak Emission Wavelength	λp	460	IF=20mA	--	460	--	nm
Peak Emission Wavelength	λp	527	IF=20mA	--	525	--	nm
Peak Emission Wavelength	λp	570	IF=20mA	--	578	--	nm
Peak Emission Wavelength	λp	630	IF=20mA	--	634	--	nm
Peak Emission Wavelength	λp	780	IF=20mA	--	780	--	nm
Peak Emission Wavelength	λp	850	IF=20mA	--	846	--	nm
Peak Emission Wavelength	λp	940	IF=20mA	--	936	--	nm
Peak Emission Wavelength	λp	1200	IF=20mA	--	1189	--	nm
Spectral Line Half Width	Δλ	365	IF=20mA	--	17	--	nm
Spectral Line Half Width	Δλ	460	IF=20mA	--	21	--	nm
Spectral Line Half Width	Δλ	527	IF=20mA	--	28	--	nm
Spectral Line Half Width	Δλ	570	IF=20mA	--	18	--	nm
Spectral Line Half Width	Δλ	630	IF=20mA	--	19	--	nm
Spectral Line Half Width	Δλ	780	IF=20mA	--	24	--	nm
Spectral Line Half Width	Δλ	850	IF=20mA	--	23	--	nm
Spectral Line Half Width	Δλ	940	IF=20mA	--	39	--	nm
Spectral Line Half Width	Δλ	1200	IF=20mA	--	54	--	nm

Electrical & Optical Characteristics (Ta = 25ºC)

ITEMS	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
Breakdown Voltage	VR	IR=10uA	3.0	5	--	V
Half Intensity Beam Angle	Θ	IF=20mA	--	±60	--	deg

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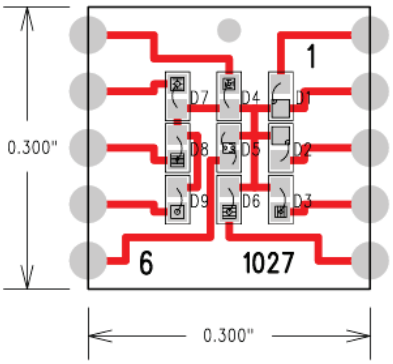
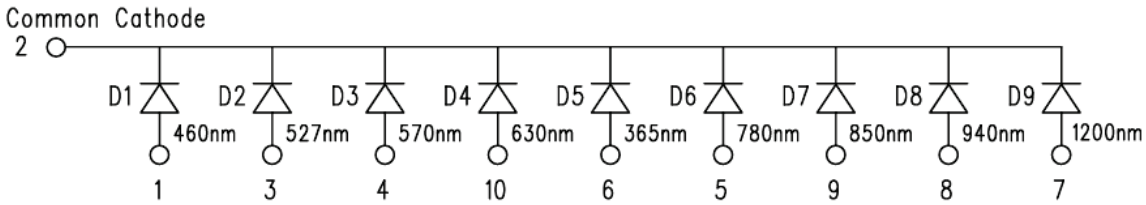
Package Dimensions



DEVICE CONFIGURATION

PIN #		WAVELENGTH	P (ANODE UP)	N (CATHODE UP)	P/N
1	D1	460nm	X		EZ500-p
3	D2	527nm	X		EZ500-p
4	D3	570nm		X	OPC5700-24
10	D4	630nm		X	OP636C
6	D5	365nm	X	X	OPC3650-13
5	D6	780nm		X	OPC7800R-IR
9	D7	850nm		X	OP861C
8	D8	940nm		X	943chip
7	D9	1200nm		X	OPC1202C
2	COMMON CATHODE				



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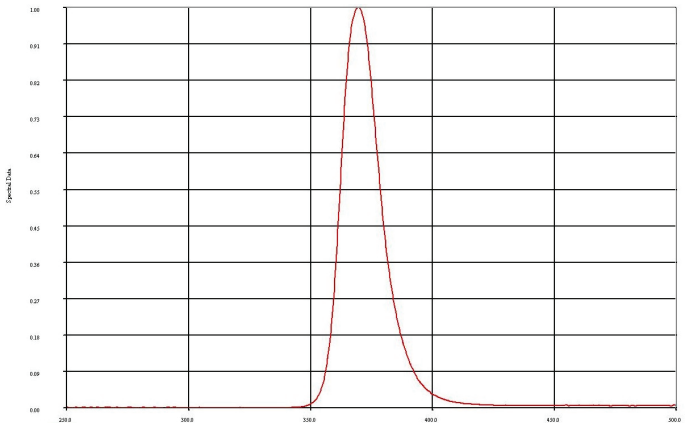
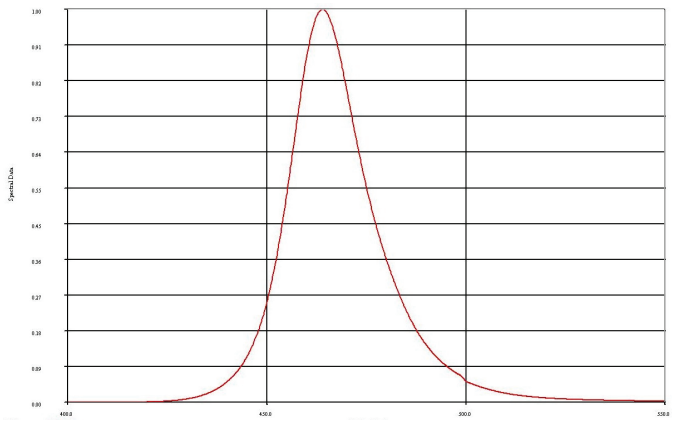
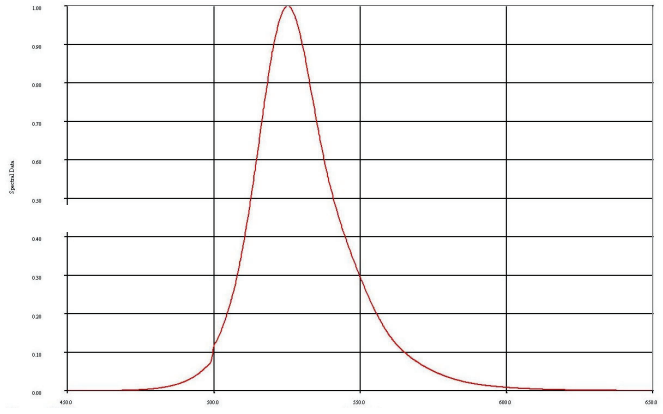
365nm Spectral Response



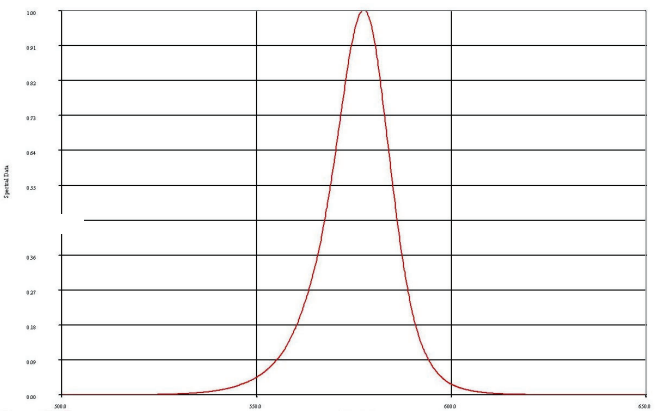
460nm Spectral Response



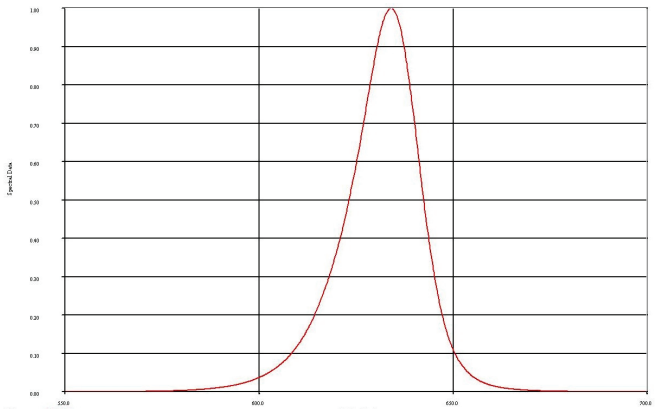
527nm Spectral Response



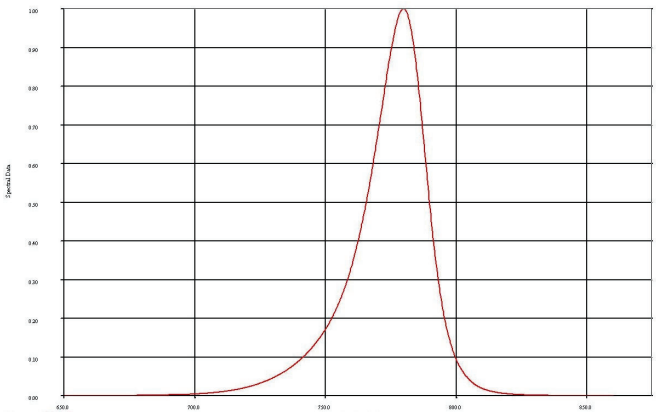
570nm Spectral Response



630nm Spectral Response



780nm Spectral Response



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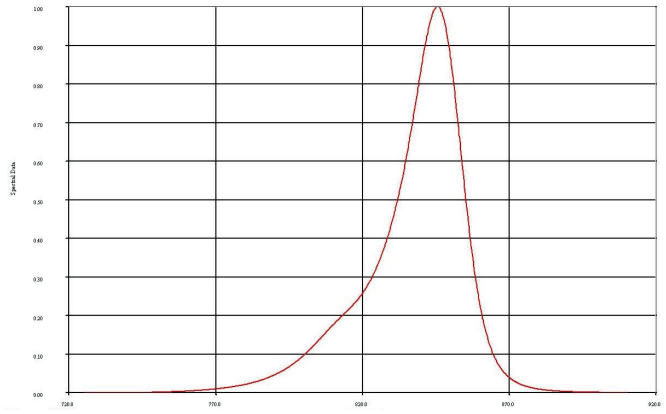
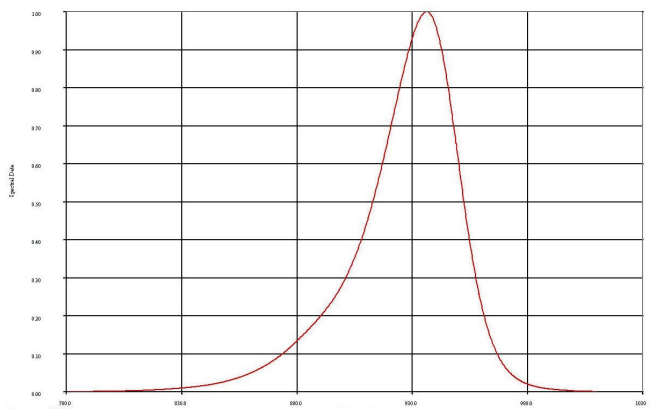
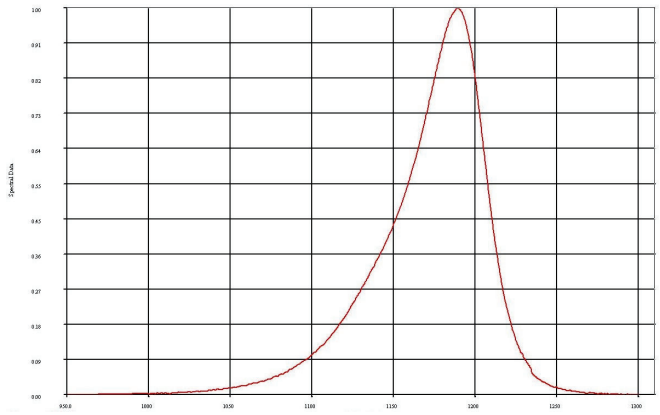
850nm Spectral Response



940nm Spectral Response



1200nm Spectral Response



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