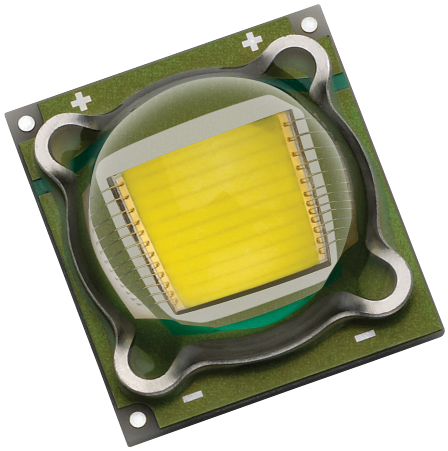
SST-90 LEDs



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Introduction:

This document describes the binning and labeling nomenclature for SST-90 Big Chip LED™ product as well as the orderable bin kits for each part.

With each build of parts, there is a distribution of performance in both flux and wave length or chromaticity. In order to guarantee specific performance for customers, each device is measured and subsequently grouped into flux and wavelength or chromaticity bins. Each individual package or reel of parts contains only one combination of flux and wavelength or chromaticity bin. Furthermore, bins are combined into orderable bin kits comprising of a selection of flux and wavelength or chromaticity bins to ease the ordering process.

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Table of Products

Products	Ordering Part Number	Description
SST-90-W65S	SST-90-W65S-F11/T11-xx123	White Big Chip LED™ SST-90 surface mount device consisting of a 9mm² LED on ceramic substrate, F11- tray pack, T11- Tape & Reel
SST-90-W57S	SST-90-W57S-F11/T11-xx123	
SST-90-WDLS	SST-90-WDLS-F11/T11-xx123	
SST-90-W45S	SST-90-W45S-F11/T11-xx123	
SST-90-W40S	SST-90-W40S-F11/T11-xx123	
SST-90-WCLS	SST-90-WCLS-F11/T11-xx123	
SST-90-W30M	SST-90-W30M-F11/T11-xx123	
SST-90-WWRM	SST-90-WWRM-F11/T11-xx123	
SST-90-R	SST-90-R-F11/T11-xx123	
SST-90-G	SST-90-G-F11/T11-xx123	
SST-90-B	SST-90-B-F11/T11-xx123	
SSR-90-W65S	SSR-90-W65S-R11-xx123	SSR-90 evaluation module consisting of a SST-90 surface mount device mounted on an aluminum star board
SSR-90-W57S	SSR-90-W57S-R11-xx123	
SSR-90-WDLS	SSR-90-WDLS-R11-xx123	
SSR-90-W45S	SSR-90-W45S-R11-xx123	
SSR-90-W40S	SSR-90-W40S-R11-xx123	
SSR-90-WCLS	SSR-90-WCLS-R11-xx123	
SSR-90-W30M	SSR-90-W30M-R11-xx123	
SSR-90-WWRM	SSR-90-WWRM-R11-xx123	
SSR-90-R	SSR-90-R-R11-xx123	
SSR-90-G	SSR-90-G-R11-xx123	
SSR-90-B	SSR-90-B-R11-xx123	

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SST-90 Shipping and Labeling Nomenclature

All SST-90 products are packaged and labeled with their respective bin as outlined in the following pages. Each package or reel will only contain one bin. The part number designation is as follows:

A B C — 1 2 3 — D 4 5 E — F 6 7 — G H — I 8

Product Family	Chip Area	Color	Package Configuration	Flux Bin	Chromaticity Bin/ Wavelength

Product Family	**A** - Package type: "S" denotes surface mount **B** - Lens type: "S" denotes dome **C** - Chip quantity: "T" denotes single chip and "R" denotes prototyping board
Chip Area	**1 2 3** - Total LED chip area (mm^2) x 10: "90" denotes $9mm^2$
Color	**D** - Color: "W" denotes white , "R" denotes red, "G" denotes Green, "B" denotes blue **4 5** - Color temperature: "65" denotes 6500K , "DL" denotes daylight white (6500K through 5700K) etc., not applicable for monochrome parts **E** - Color rendering: "S" (standard) denotes a typical CRI of 70 , "M" (moderate) denotes a typical CRI of 83, not applicable for monochrome parts
Package Config.	**F 6 7** - Package configuration (for internal use)
Flux Bin	**G H** - Flux bin
Chromaticity Bin/ Wavelength	**I 8** - Wavelength / Chromaticity bin

Example:

The part number SST-90-W65S-F11-N1-G4 refers to a 6500K standard CRI white, SST-90 emitter, with a flux range from 850 to 900 lumens and a chromaticity value within the box defined by the four points (0.313, 0.338), (0.321, 0.348), (0.322, 0.336), (0.312, 0.328).

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SST-90 Bin Kit Ordering Nomenclature

All SST-90 products are sold in sets of flux and chromaticity bins called bin kits. Each bin kit specifies a minimum flux bin and a specific selection of chromaticity bins. The ordering part number designation is as follows:

A B C — 1 2 3 — D 4 5 E — F 6 7 — G H 8 9 0

Product Family	Chip Area	Color	Package Configuration	Bin Kit Code

Product Family	**A** - Package type: "S" denotes surface mount **B** - Lens type: "S" denotes dome **C** - Chip quantity: "T" denotes single chip and "R" denotes prototyping board
Chip Area	**1 2 3** - Total LED chip area (mm^2) x 10: "90" denotes $9mm^2$
Color	**D** - Color: "W" denotes white , "R" denotes red, "G" denotes Green, "B" denotes blue **4 5** - Color temperature: "65" denotes 6500K , "DL" denotes daylight white (6500K through 5700K) etc., not applicable for monochrome parts **E** - Color rendering: "S" (standard) denotes a typical CRI of 70 , "M" (moderate) denotes a typical CRI of 83, not applicable for monochrome parts
Package Config.	**F 6 7** - Package configuration (for internal use)
Bin Kit Code	**G H** - Flux bin **8 9 0** - Wavelength/ Chromaticity bin kit code

Example:

The ordering part number SST-90-W65S-F11-M1101 refers to a 6500K standard CRI white, SST-90 emitter, with a minimum flux value of 700 lumens and falling in the F4, F3, G4, G3, EF, and DG chromaticity bins.

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SST-90 White Binning Structure

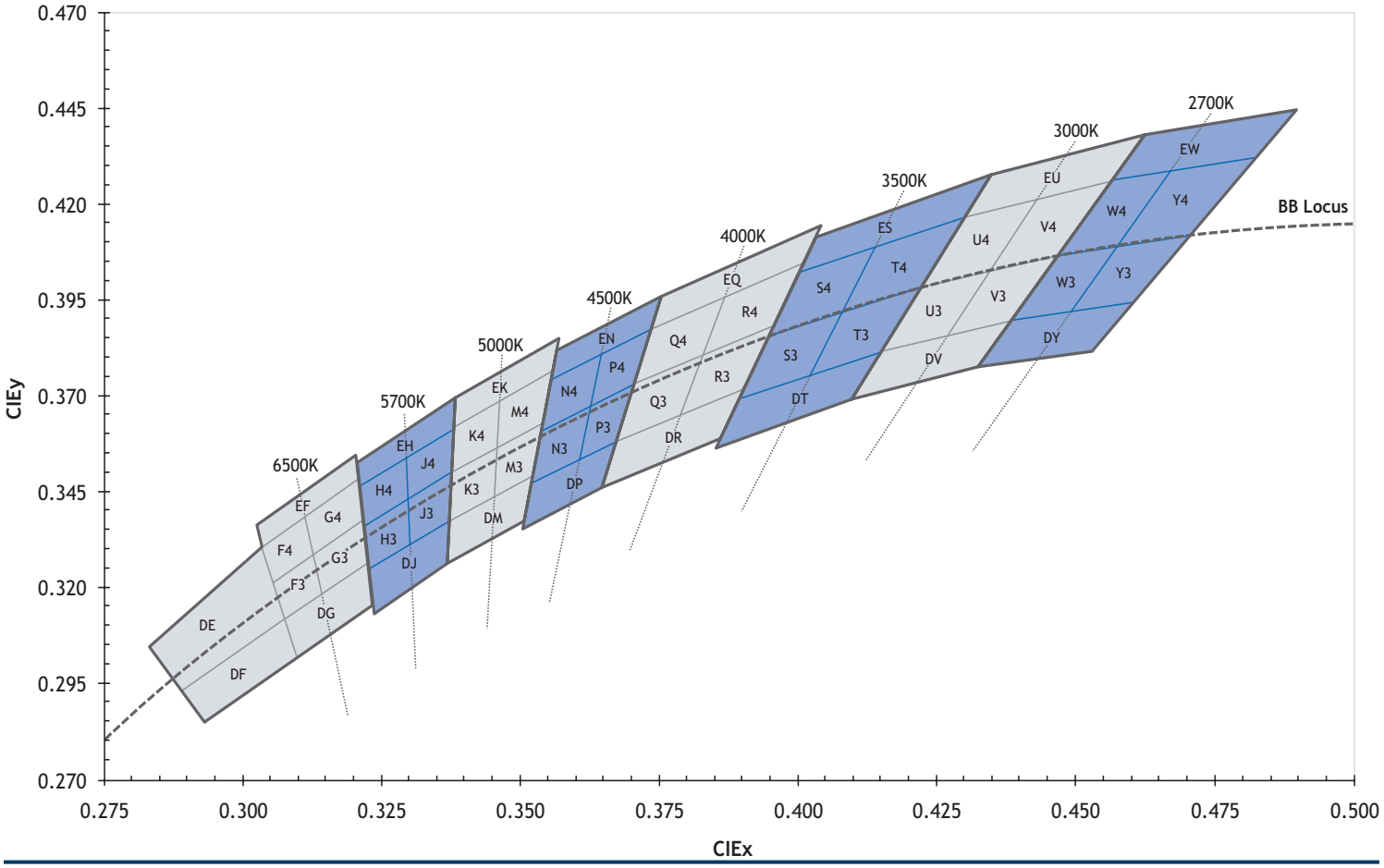
SST-90 LEDs are tested for luminous flux and chromaticity at a drive current of 3.15 A (350 mA/mm^2) and placed into one of the following luminous flux (FF) and chromaticity (WW) bins:

Flux Bin (FF)	Minimum Flux (lm) @ 3.15A	Maximum Flux (lm) @ 3.15A
L2	630	665
L3	665	700
M	700	850
M2	750	800
M3	800	850
N	850	1,000
N2	900	950
N3	950	1,000

*Note: Luminus maintains a +/- 6% tolerance on flux measurements.

Chromaticity Bins

Luminus' Standard Chromaticity Bins: 1931 CIE Curve



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The following tables describe the four chromaticity points that bound each chromaticity bin. Chromaticity bins are grouped together based on the color temperature.

6500K Chromaticity Bins		
Bin Code (WW)	CIEx	CIEy
DG	0.307	0.311
	0.322	0.326
	0.323	0.316
	0.309	0.302
F3*	0.305	0.321
	0.313	0.329
	0.315	0.319
	0.307	0.311
F4*	0.303	0.330
	0.312	0.339
	0.313	0.329
	0.305	0.321
G3*	0.313	0.329
	0.321	0.337
	0.322	0.326
	0.315	0.319
G4*	0.312	0.339
	0.321	0.348
	0.321	0.337
	0.313	0.329
EF	0.302	0.335
	0.320	0.354
	0.321	0.348
	0.303	0.330
DE	0.283	0.304
	0.303	0.330
	0.307	0.311
	0.289	0.293
DF	0.289	0.293
	0.307	0.311
	0.309	0.302
	0.293	0.285

5700K Chromaticity Bins		
Bin Code (WW)	CIEx	CIEy
DJ	0.322	0.324
	0.337	0.337
	0.336	0.326
	0.323	0.314
H3*	0.321	0.335
	0.329	0.342
	0.329	0.331
	0.322	0.324
H4*	0.321	0.346
	0.329	0.354
	0.329	0.342
	0.321	0.335
J3*	0.329	0.342
	0.337	0.349
	0.337	0.337
	0.330	0.331
J4*	0.329	0.354
	0.338	0.362
	0.337	0.349
	0.329	0.342
EH	0.320	0.352
	0.338	0.368
	0.338	0.362
	0.321	0.346

*Sub-bins within ANSI defined quadrangles per ANSI C78.377-2008

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5000K Chromaticity Bins		
Bin Code (WW)	CIEx	CIEy
EK	0.338	0.368
	0.356	0.384
	0.355	0.376
	0.338	0.362
K3*	0.337	0.349
	0.345	0.355
	0.345	0.343
	0.337	0.337
K4*	0.338	0.362
	0.347	0.369
	0.345	0.355
	0.337	0.349
M3*	0.345	0.355
	0.353	0.349
	0.352	0.372
	0.344	0.343
M4*	0.346	0.369
	0.355	0.376
	0.353	0.362
	0.345	0.355
DM	0.337	0.337
	0.352	0.349
	0.350	0.337
	0.336	0.326

4500K Chromaticity Bins		
Bin Code (WW)	CIEx	CIEy
EN	0.356	0.384
	0.376	0.396
	0.374	0.387
	0.355	0.374
N3*	0.353	0.360
	0.361	0.366
	0.359	0.352
	0.351	0.347
N4*	0.355	0.374
	0.364	0.381
	0.361	0.366
	0.353	0.360
P3*	0.361	0.366
	0.370	0.373
	0.367	0.358
	0.359	0.352
P4*	0.364	0.381
	0.374	0.387
	0.370	0.373
	0.361	0.366
DP	0.351	0.347
	0.367	0.358
	0.364	0.346
	0.350	0.335

*Sub-bins within ANSI defined quadrangles per ANSI C78.377-2008

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4000K Chromaticity Bins		
Bin Code (WW)	CIEx	CIEy
EQ	0.376	0.396
	0.404	0.414
	0.401	0.404
	0.374	0.387
Q3*	0.370	0.373
	0.382	0.380
	0.378	0.365
	0.367	0.358
Q4*	0.374	0.387
	0.387	0.396
	0.382	0.380
	0.370	0.373
R3*	0.382	0.380
	0.395	0.388
	0.390	0.372
	0.378	0.365
R4*	0.387	0.396
	0.401	0.404
	0.395	0.388
	0.382	0.380
DR	0.367	0.358
	0.390	0.372
	0.386	0.359
	0.364	0.346

3500K Chromaticity Bins		
Bin Code (WW)	CIEx	CIEy
ES	0.403	0.411
	0.435	0.427
	0.430	0.417
	0.400	0.402
S3*	0.394	0.385
	0.407	0.392
	0.402	0.375
	0.389	0.369
S4*	0.400	0.402
	0.415	0.409
	0.407	0.392
	0.394	0.385
T3*	0.407	0.392
	0.422	0.399
	0.415	0.381
	0.402	0.375
T4*	0.415	0.409
	0.430	0.417
	0.422	0.399
	0.407	0.392
DT	0.389	0.369
	0.415	0.381
	0.409	0.369
	0.385	0.357

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3000K Chromaticity Bins		
Bin Code (WW)	CIEx	CIEy
EU	0.435	0.427
	0.462	0.437
	0.456	0.426
	0.430	0.417
U3*	0.422	0.399
	0.434	0.403
	0.426	0.385
	0.415	0.381
U4*	0.430	0.417
	0.443	0.421
	0.434	0.403
	0.422	0.399
V3*	0.434	0.403
	0.447	0.408
	0.437	0.389
	0.426	0.385
V4*	0.443	0.421
	0.456	0.426
	0.447	0.408
	0.434	0.403
DV	0.415	0.381
	0.437	0.389
	0.431	0.377
	0.409	0.369

2700K Chromaticity Bins		
Bin Code (WW)	CIEx	CIEy
EW	0.462	0.437
	0.488	0.444
	0.481	0.432
	0.456	0.426
W3*	0.447	0.408
	0.458	0.410
	0.448	0.392
	0.437	0.389
W4*	0.456	0.426
	0.469	0.429
	0.458	0.410
	0.447	0.408
Y3*	0.458	0.410
	0.70	0.413
	0.459	0.394
	0.448	0.392
Y4*	0.469	0.429
	0.481	0.432
	0.470	0.413
	0.458	0.410
DY	0.437	0.389
	0.459	0.394
	0.452	0.382
	0.431	0.377

*Sub-bins within ANSI defined quadrangles per ANSI C78.377-2008

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SST-90 Monochromatic Binning Structure

All SST-90 monochromatic LEDs are tested for luminous flux/ dominant wavelength and placed into one of the following flux/ wave length bins. The binning structure is universally applied across each monochromatic color of the SST-90 product line. Consult the local sales person for the available flux/ wavelength bins for the product:

Flux Bins

Color	Luminous Flux Bin (FF)	Minimum Flux (lm) @ 3.15A	Maximum Flux (lm) @ 3.15A
Red	BG	275	350
	BH	350	475
Green	CF	640	775
	CG	775	940
Blue	DE	90	120
	DF	120	160
	DG	160	200

Wavelength Bins

Color	Wavelength Bin (FF)	Minimum Wavelength @ 3.15A	Maximum Wavelength @ 3.15A
Red	R2	611	615
	R3	615	619
	R4	619	623
	R5	623	627
	R6	627	631
	R7	631	635
Green	G2	510	515
	G3	515	520
	G4	520	525
	G5	525	530
	G6	530	535
	G7	535	540
	G8	540	545
Blue	B4	450	455
	B5	455	460
	B6	460	465
	B7	465	470
	B8	470	475

*Note: Luminus maintains a +/- 6% tolerance on flux measurements.

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SST-90 and SSR-90 Bin Kit Order Codes

The following tables describe the bin kit ordering codes for the SST-90 and SSR-90. The flux and wave length or chromaticity bins are also included in the bin kit. Each kit specifies a minimum flux and the listed wave length or chromaticity bins. A maximum flux is not specified. Within each kit, Luminus may ship any part meeting or exceeding the minimum flux specification. Shipments will always meet the listed wave length or chromaticity bins. For information on ordering bin kits not listed below, please contact Luminus or an official distributor.

SST-90 and SSR-90 Bin Kit Order Codes

Color	Luminous Flux		Chromaticity Bins	Kit Number
	Bin Kit Flux Code	Min. Flux		
White W65S 6500K, Standard CRI (typ. 70)	N2	900	F4, F3, G4, G3, EF, DG, DE, DF	N2100
			F4, F3, G4, G3, EF, DG	N2101
			F4, F3, G4, G3	N2102
	N3	950	F4, F3, G4, G3, EF, DG, DE, DF	N3100
			F4, F3, G4, G3, EF, DG	N3101
			F4, F3, G4, G3	N3102
White WDLS 6500K & 5700K Standard CRI (typ. 70)	N2	900	F4, F3, G4, G3, EF, DG, DE, DF H4, H3, J4, J3, EH, DJ	N2150
	N3	950	F4, F3, G4, G3, EF, DG, DE, DF H4, H3, J4, J3, EH, DJ	N3150
White W57S 5700K, Standard CRI (typ. 70)	N2	900	H4, H3, J4, J3, EH, DJ	N2200
			H4, H3, J4, J3	N2201
	N3	950	H4, H3, J4, J3, EH, DJ	N3200
			H4, H3, J4, J3	N3201
White W45S 4500K, Standard CRI (typ. 70)	M2	750	N4, N3, P4, P3, EN, DP	M2400
			N4, N3, P4, P3	M2401
	M3	800	N4, N3, P4, P3, EN, DP	M3400
			N4, N3, P4, P3	M3401
	N	850	N4, N3, P4, P3, EN, DP	GN400
			N4, N3, P4, P3	GN401
White WCLS 4500K & 4000K Standard CRI (typ. 70)	M2	750	N3, N4, P3, P4, DP, EN Q3, Q4, R3, R4, DR, EQ	M2450
	M3	800	N3, N4, P3, P4, DP, EN Q3, Q4, R3, R4, DR, EQ	M3450
	N	850	N3, N4, P3, P4, DP, EN Q3, Q4, R3, R4, DR, EQ	GN450

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White W40S 4000K, Standard CRI (typ. 70)	M2	750	Q4, Q3, R4, R3, EQ, DR	M2500
			Q4, Q3, R4, R3	M2501
	M3	800	Q4, Q3, R4, R3, EQ, DR	M3500
			Q4, Q3, R4, R3	M3501
	N	850	Q4, Q3, R4, R3, EQ, DR	GN500
			Q4, Q3, R4, R3	GN501
White W30M 3000K, Moderate CRI (typ. 83)	L	600	U4, U3, V4, V3, EU, DV	GL700
			U4, U3, V4, V3	GL701
	L2	630	U4, U3, V4, V3, EU, DV	L2700
			U4, U3, V4, V3	L2701
	L3	665	U4, U3, V4, V3, EU, DV	L3700
			U4, U3, V4, V3	L3701
White WWRM 3000K & 2700K Moderate CRI (typ. 83)	L	600	U3, U4, V3, V4, DV, EU W3, W4, Y3, Y4, DY, EW	GL750
	L2	630	U3, U4, V3, V4, DV, EU W3, W4, Y3, Y4, DY, EW	L2750
	L3	665	U3, U4, V3, V4, DV, EU W3, W4, Y3, Y4, DY, EW	L3750

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Color	Luminous Flux		Wavelength Bins	Kit Number
	Bin Kit Flux Code	Min. Flux		
Red	HG	275	R2, R3, R4, R5, R6, R7	HG100
			R4, R5	HG101
	HH	350	R2, R3, R4, R5, R6, R7	HH100
			R4, R5	HH101
Green	JF	640	G2, G3, G4, G5, G6, G7, G8	JF200
			G4, G5, G6, G7	JF201
	JG	775	G2, G3, G4, G5, G6, G7, G8	JG200
			G4, G5, G6, G7	JG201
Blue	KE	90	B4, B5, B6, B7, B8	KE300
			B5, B6, B7	KE301
	KF	120	B4, B5, B6, B7, B8	KF300
			B5, B6, B7	KF301
	KG	160	B4, B5, B6, B7, B8	KG300
			B5, B6, B7	KG301

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LifeElectronics
Живое партнерство

ООО «ЛайфЭлектроникс» **“LifeElectronics” LLC**

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- *Конкурентоспособные цены и скидки постоянным клиентам.*
- *Специальные условия для постоянных клиентов.*
- *Подбор аналогов.*
- *Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.*

- *Приемлемые сроки поставки, возможна ускоренная поставка.*
- *Доставку товара в любую точку России и стран СНГ.*
- *Комплексную поставку.*
- *Работу по проектам и поставку образцов.*
- *Формирование склада под заказчика.*

- *Сертификаты соответствия на поставляемую продукцию (по желанию клиента).*
- *Тестирование поставляемой продукции.*
- *Поставку компонентов, требующих военную и космическую приемку.*
- *Входной контроль качества.*
- *Наличие сертификата ISO.*

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- *Регистрацию проекта у производителя компонентов.*
- *Техническую поддержку проекта.*
- *Защиту от снятия компонента с производства.*
- *Оценку стоимости проекта по компонентам.*
- *Изготовление тестовой платы монтаж и пусконаладочные работы.*

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