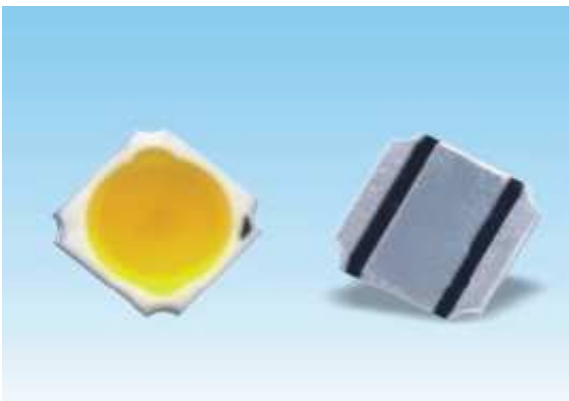


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The Power of LED Light

Specifications



Resin	Silicone
Bonding Wire	Ø 1mil Au
Lens Color	all
Dice	InGaN
Resin	Silicone

Applications

- Light sources for general lighting. Most suitable for bulbs and tube lights.
- Various general illumination luminaires
- Backlighting Light sources for various large-size backlighting gives to LED TV
- Vehicles interior lighting: Plane Ship, Car, and Train etc.
- Various special lighting which require long lifespan and high reliability like projector light source.
- Various commercial lighting.



Features

- Tiny Size 3,5x3,5x1,0mm
- Ceramic plus metal Material with high thermal conductivity as the substrate.
- Silicon packed , anti UV
- Good airproof performance, high reliability and very low degradation rate
- Very low thermal resistance, with lowest of 3°C/W
- Long life time over 50000HRs
- Full range of white colors available (2700K-900K)
- Most applicable to general lighting sources and luminaires as well as LED-TV backlighting.
- HIGH CRI products
- available from 0,2W to 3Watt

**3535 SMT Ceramic LED
0,2Watt**

Part No.: **M11E4001**

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
APPD:	Schumi			FINISH	Jamy		Sheet No.		1 from 19

Customer:

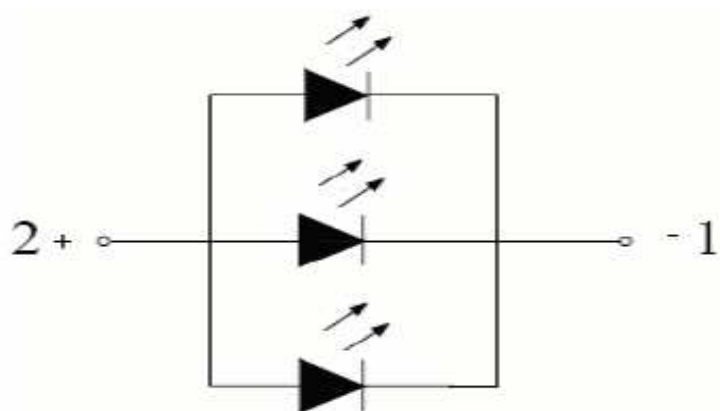
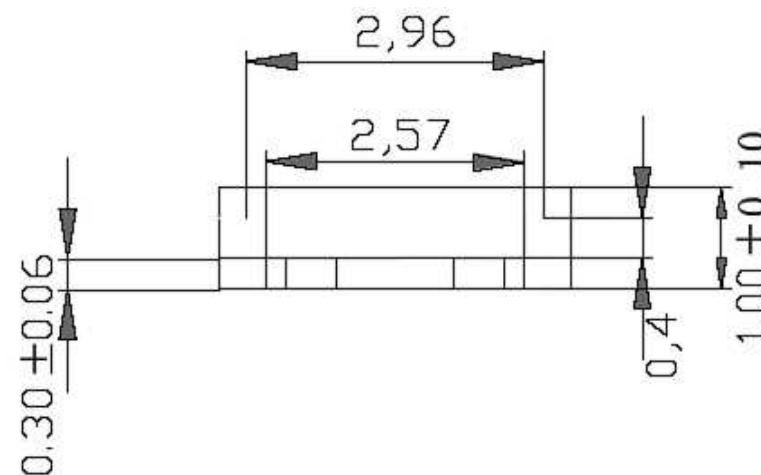
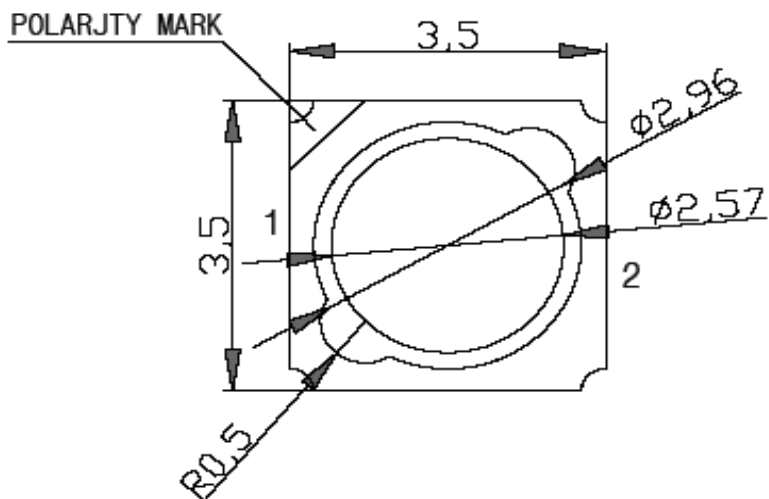
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The Power of LED Light



Package Outline Dimensions (mm)



3535 SMT Ceramic LED	
0,2Watt	
Part No.:	M11E4001
Customer:	

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
APPD:	Schumi			FINISH	Jamy		Sheet No.	2 from 19	

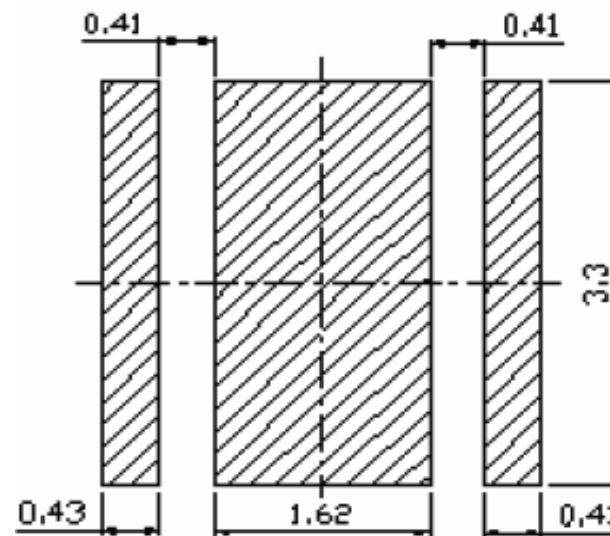
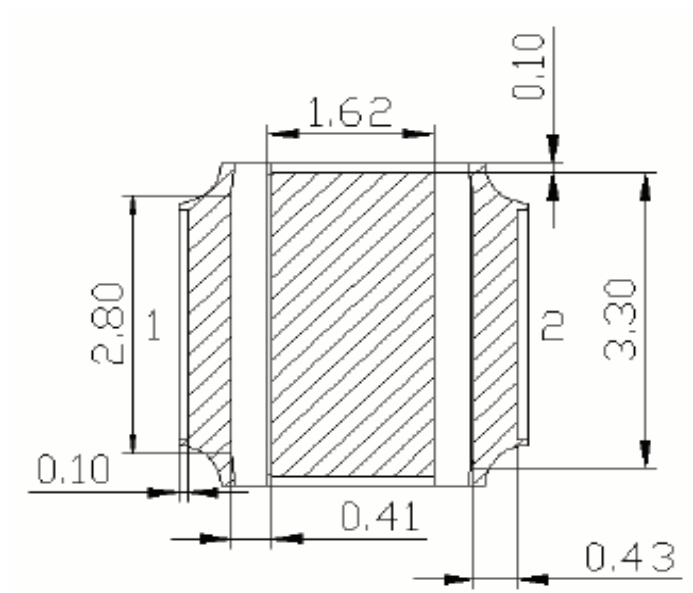
EDCON-COMPONENTS



The Power of LED Light



Package Outline Dimensions (mm)



3535 SMT Ceramic LED	
0,2Watt	
Part No.:	M11E4001
Customer:	

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
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The Power of LED Light



Absolute Maximum Ratings of Color White, Royla Blue, Blue, Green

Characteristics (Ta=25°C)	Unit	Min	Typ	Max.
Thermal Resistance, junction to solder point	°C/W	3	4	
Temperature coefficient of voltage	mV/°C		-.5.0	
ESD cClassification (HBM per Mil-Std-883D)			Class 2	
DC Forward Current - white ≥ 5000K	mA			75
DC Forward Current - white ≤ 5000K	mA			60
DC pulse Current (@ 1KHz, 10% duty cycle)	mA			300
Reverse Voltage	V			5
Forward Voltage (@75mA)	V		3,3	3,6
Forward Voltage (@60mA)	V		3,2	
LED Junction Temperature	°C			150

Electro Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min	Typ.	Max.	Unit	Condition
Viewing Angle	2 Ø 1/2		120		deg	If=60mA
Reverse Current	IR			50	µA	VR=5V

**3535 SMT Ceramic LED
0,2Watt**

Part No.: **M11E4001**

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
APPD:	Schumi			FINISH	Jamy		Sheet No.		4 from 19

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The Power of LED Light



Absolute Maximum Ratings of Color Amber, Red

Characteristics (Ta=25°C)	Unit	Min	Typ	Max.
Thermal Resistance, junction to solder point	°C/W	4	5	
Temperature coefficient of voltage	mV/°C		-3.0	
ESD cClassification (HBM per Mil-Std-883D)			Class 2	
DC Forward Current - white ≥ 5000K	mA			75
DC pulse Current (@ 1KHz, 10% duty cycle)	mA			300
Reverse Voltage	V			5
Forward Voltage (@75mA)	V		2,2	2,6
Forward Voltage (@60mA)	V		2,1	2,4
LED Junction Temperature	°C			150

Electro Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min	Typ.	Max.	Unit	Condition
Viewing Angle	2 Ø 1/2		120		deg	If=60mA
Reverse Current	IR			50	µA	VR=5V

**3535 SMT Ceramic LED
0,2Watt**

Part No.: **M11E4001**

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
APPD:	Schumi			FINISH	Jamy		Sheet No.		5 from 19

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The Power of LED Light



Bin Range of Luminous Intensity

Color	Dominant Wavelength (nm) I= 60mA		Luminous Flux (lm) I=60mA			Luminous Flux (mcd) I=60mA		
	Min	Max	Group	Min	Type	Group	Min	Typ
Royal Blue	455	465	A3	1,3	1,8	C2	500	650
Blue	465	475	A3	1,3	1,8	C2	500	650
Green	515	535	A7	5,0	7,0	E4	1800	2100
Amber	585	595	A5	2,5	3,5	D3	1000	1200
Orange	600	615	A3	2,5	3,5	C3	600	800
Red	620	635	A3	2,5	3,5	C3	600	800

Color	CCT Range		Luminous Flux (lm) I=60mA			Luminous Flux (mcd) I=60mA		
	Min	Max	Group	Min	Type	Group	Min	Typ
Cool White	7000K	9000K	C	15	18	F4	4000	5000
			D	18	22	G2	5000	6000
Daylight Wh	5000K	7000K	B	12	15	F4	4000	5000
			D	18	22	G2	5000	6000
Nature Wh	3500K	5000K	B	12,0	15,0	F3	3000	4000
			C	15	18	F4	4000	5000
Warm White	2700K	3500K	B	12	15	F3	3000	4000
			C	15	18	F4	4000	5000

Please take Luminous Flux as standard parameter, Luminous Intensity is only for reference.

Tolerance of Luminous Intensity is +/-15%

Leds with Ra under 75 are not available for this product.

**3535 SMT Ceramic LED
0,2Watt**

Part No.: **M11E4001**

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009	Customer:
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The Power of LED Light



Color Bin Limit (IF=60mA) Bin Range of Wavelength

Bin Range of Forward Voltage

Blue		Bluish Green		Green		Orange			
Code	nm	Code	nm	Code	nm	Code	nm		
P1	380~385	B1	450~455	G1	490~492,5	E1	564~566	A1	600~605
P2	385~390	B2	455~460	G2	492,5~495	E2	566~568	A2	605~610
P3	390~395	B3	460~462,5	G3	495~497,5	E3	568~570	A3	610~615
P4	395~400	B4	462,5~465	G4	497,5~500	E4	570~572		
P5	400~405	B5	465~476,5	G5	500~502,5	E5	572~574		
P6	405~410	B6	467,5~470	G6	502,5~505	E6	574~675		
P7	410~415	B7	470~472,5	G7	505~507,5				
		B8	472,5~475	G8	507,5~510	Yellow		Red	
		B9	475~477,5	G9	510~512,5	Y1	580~582,5	R1	615-620
		B10	477,5~480	G10	512,5~515	Y2	582,5~585	R2	620-625
		B11	480~482,5	G11	515~517,5	Y3	585~587,5	R3	625~630
		B12	482,5~485	G12	517,5~520	Y4	587,5~590	R4	630~635
		B13	485~487,5	G13	520~522,5	Y5	590~592,5	R5	635~640
				G14	522,5~525	Y6	592,5~595	R6	640~645
				G15	525~527,5	Y7	595~597,5		
				G16	527,5~530	Y8	597,5~600		
				G17	530~532,5				
				G18	532,5~535				
				G19	525~537,5				
				G20	537,5~540				
				G21	540~542,5				

Red, Orange, Amber		
Group	Min. VF(V)	Max. VF(V)
V1	1,6	1,8
V2	1,8	2,0
V3	2,0	2,2
V4	2,2	2,4
V5	2,4	2,6
V0	2,6	2,8

Blue, Green, White		
Group	Min. VF(V)	Max. VF(V)
V6	2,8	3,0
V7	3,0	3,2
V8	3,2	3,4
V9	3,4	3,6
V10	3,6	3,8
V11	3,8	4,0

**3535 SMT Ceramic LED
0,2Watt**

Part No.: **M11E4001**

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
APPD:	Schumi			FINISH	Jamy		Sheet No.	7 from 19	

Customer:

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The Power of LED Light



CCT Range of White

Region	CCT Range		X	Y	Region	CCT Range		X	Y
	Min.	Max.				Min.	Max.		
CK	8200K	10000K	0,283	0,284	CB	7000K	8200K	0,306	0,322
			0,295	0,297				0,308	0,311
			0,298	0,288				0,295	0,297
			0,287	0,276				0,292	0,306
CA	8200K	10000K	0,292	0,306	CE	7000K	8200K	0,301	0,342
			0,295	0,297				0,306	0,322
			0,283	0,284				0,292	0,306
			0,279	0,291				0,287	0,321
CM	7000K	8200K	0,295	0,297					
			0,308	0,311					
			0,310	0,300					
			0,298	0,288					
Region	CCT Range		X	Y	Region	CCT Range		X	Y
	Min.	Max.				Min.	Max.		
DN	6300K	7000K	0,308	0,311	DG3	5700K	6000K	0,329	0,369
			0,317	0,319				0,329	0,357
			0,318	0,308				0,322	0,355
			0,310	0,300				0,322	0,362
DC	6300K	7000K	0,316	0,332	DG4	6000K	6300K	0,322	0,362
			0,317	0,319				0,322	0,350
			0,308	0,311				0,315	0,344
			0,306	0,322				0,314	0,355
DF	6300K	7000K	0,314	0,355	DJ1	5300K	5700K	0,329	0,330
			0,316	0,332				0,329	0,345
			0,306	0,322				0,3375	0,352
			0,301	0,342				0,3365	0,336

**3535 SMT Ceramic LED
0,2Watt**

Part No.: **M11E4001**

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
APPD:	Schumi			FINISH	Jamy		Sheet No.		8 from 19

Customer:

EDCON-COMPONENTS



The Power of LED Light



CCT Range of White

Region	CCT Range		X	Y	Region	CCT Range		X	Y
	Min.	Max.				Min.	Max.		
DP	5700K	6300K	0,317	0,319	DJ2	5000K	5300K	0,3365	0,336
			0,329	0,33				0,3375	0,352
			0,329	0,318				0,346	0,359
			0,318	0,308				0,344	0,342
DD	5700K	6300K	0,329	0,345	DH1	5300K	5700K	0,329	0,345
			0,329	0,33				0,329	0,369
			0,317	0,319				0,3385	0,3765
			0,316	0,332				0,3375	0,352
DGI	6000K	6300K	0,322	0,355	DH2	5000K	5300K	0,3375	0,352
			0,322	0,3385				0,3385	0,3765
			0,316	0,332				0,348	0,384
			0,315	0,3435				0,346	0,359
DG2	5700K	6000K	0,329	0,357					
			0,329	0,345					
			0,322	0,3385					
			0,322	0,350					

3535 SMT Ceramic LED 0,2Watt	
Part No.:	M11E4001
Customer:	

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
APPD:	Schumi			FINISH	Jamy		Sheet No.	9 from 19	

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The Power of LED Light



CCT Range of White

Region	CCT Range		X	Y	Region	CCT Range		X	Y
	Min.	Max.				Min.	Max.		
NA	4750K	5000K	0,3451	0,3554	NG	3950K	4250K	0,3670	0,3578
			0,3533	0,3620				0,3702	0,3722
			0,3515	0,3487				0,3825	0,3798
			0,3440	0,3428				0,3783	0,3646
NB	4750K	5000K	0,3463	0,3687	NH	3950K	4250K	0,3702	0,3722
			0,3551	0,3760				0,3736	0,3874
			0,3533	0,3620				0,3869	0,3958
			0,3451	0,3554				0,3825	0,3798
NC	4500K	4750K	0,3512	0,3465	NJ	3700K	3950K	0,3783	0,3646
			0,3529	0,3597				0,3825	0,3798
			0,3615	0,3659				0,3950	0,3875
			0,3590	0,3521				0,3898	0,3716
ND	4500K	4750K	0,3529	0,3597	NK	3700K	3950K	0,3825	0,3798
			0,3548	0,3736				0,3869	0,3958
			0,3641	0,3804				0,4006	0,4044
			0,3614	0,3659				0,3950	0,3875
NE	4250K	4500K	0,3590	0,3521	NM	3450K	3700K	0,3889	0,3690
			0,3615	0,3659				0,3941	0,3848
			0,3702	0,3722				0,4080	0,3916
			0,3670	0,3578				0,4017	0,3751
NF	4250K	4500K	0,3615	0,3659	NN	3450K	3700K	0,3941	0,3848
			0,3641	0,3804				0,3996	0,4015
			0,3736	0,3874				0,4146	0,4089
			0,3702	0,3722				0,4080	0,3916

**3535 SMT Ceramic LED
0,2Watt**

Part No.: **M11E4001**

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009	Customer:
APPD:	Schumi			FINISH	Jamy		Sheet No.	10 from 19		

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The Power of LED Light



CCT Range of White

Region	CCT Range		X	Y	Region	CCT Range		X	Y
	Min.	Max.				Min.	Max.		
WA	3200K	3450K	0,4017	0,3751	WF	2850K	3050K	0,4342	0,4028
			0,4080	0,3916				0,4430	0,4212
			0,4221	0,3984				0,4562	0,4260
			0,4147	0,3814				0,4465	0,4071
WB	3200K	3450K	0,4080	0,3916	WG	2720K	2850K	0,4373	0,3893
			0,4146	0,4089				0,4465	0,4071
			0,4299	0,4165				0,4582	0,4099
			0,4221	0,3984				0,4483	0,3919
WC	3050K	3200K	0,4147	0,3814	WH	2720K	2850K	0,4465	0,4071
			0,4221	0,3984				0,4562	0,4260
			0,4342	0,4028				0,4687	0,4289
			0,4259	0,3853				0,4582	0,4099
WD	3050K	3200K	0,4221	0,3984	WJ	2500K	2720K	0,4483	0,3919
			0,4299	0,4165				0,4582	0,4099
			0,4430	0,4212				0,4700	0,4126
			0,4342	0,4028				0,4593	0,3944
WE	2850K	3050K	0,4259	0,3853	WK	2500K	2720K	0,4582	0,4099
			0,4342	0,4028				0,4687	0,4289
			0,4465	0,4071				0,4814	0,4319
			0,4373	0,3893				0,4700	0,4126

3535 SMT Ceramic LED 0,2Watt	
Part No.:	M11E4001
Customer:	

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
APPD:	Schumi			FINISH	Jamy		Sheet No.		11 from 19

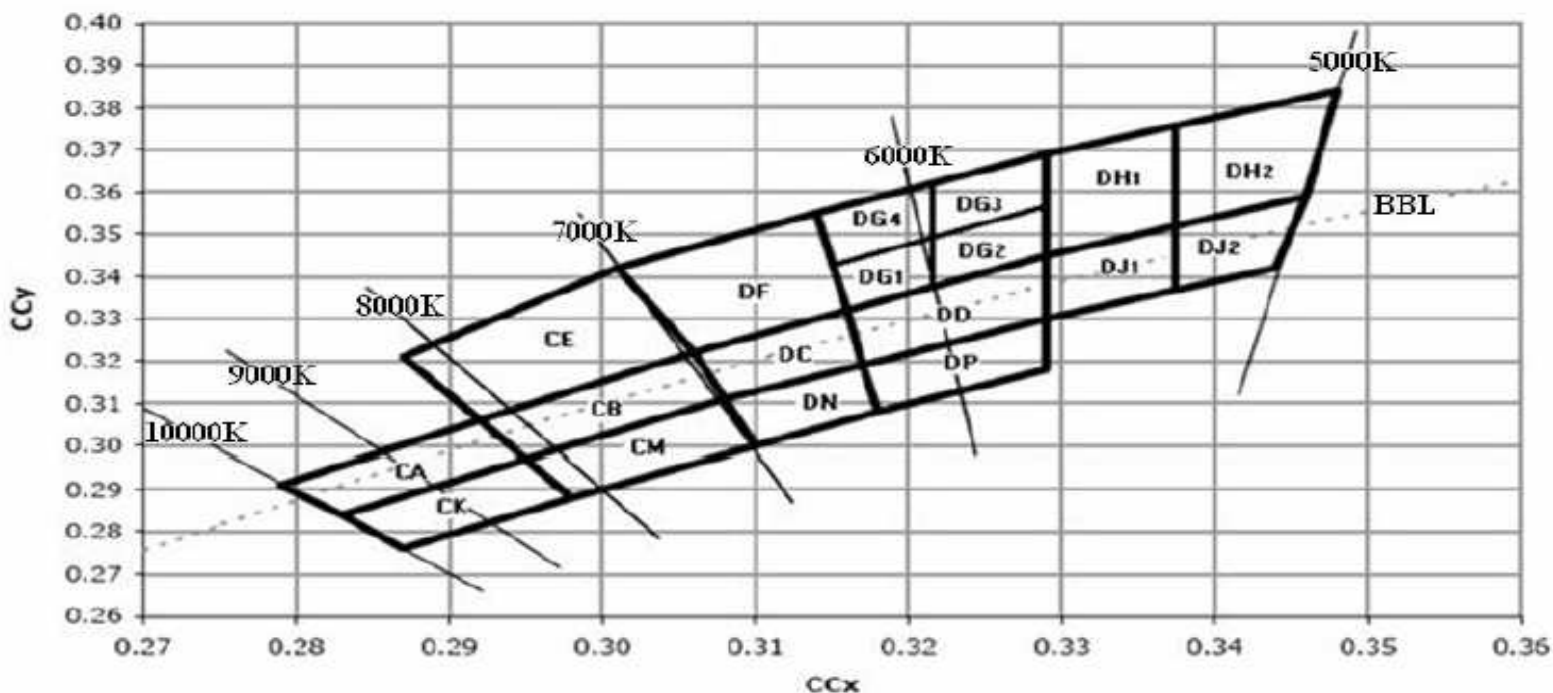
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The Power of LED Light



Characteristics



3535 SMT Ceramic LED 0,2Watt	
Part No.:	M11E4001
Customer:	

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
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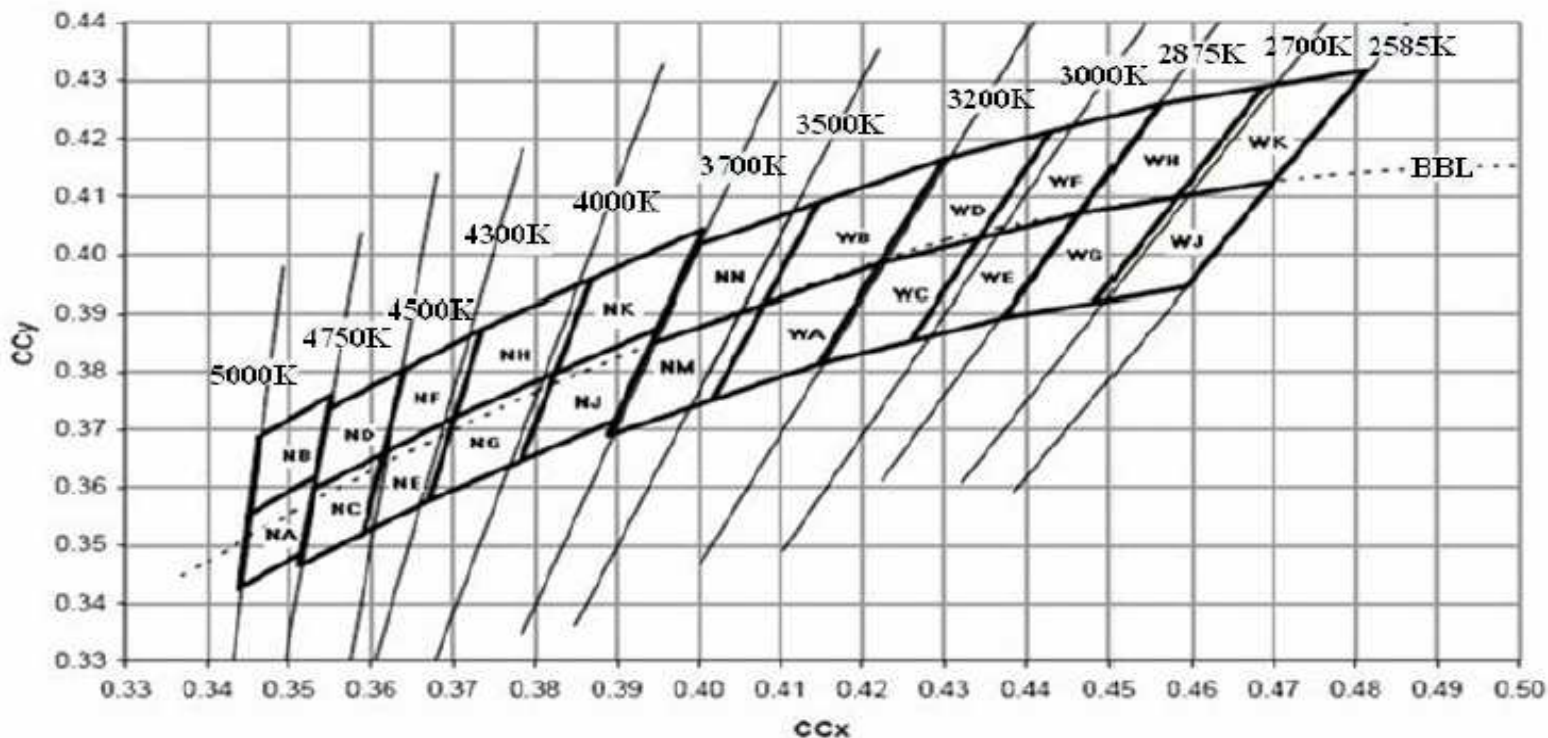
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The Power of LED Light



Characteristics



3535 SMT Ceramic LED 0,2Watt	
Part No.:	M11E4001
Customer:	

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
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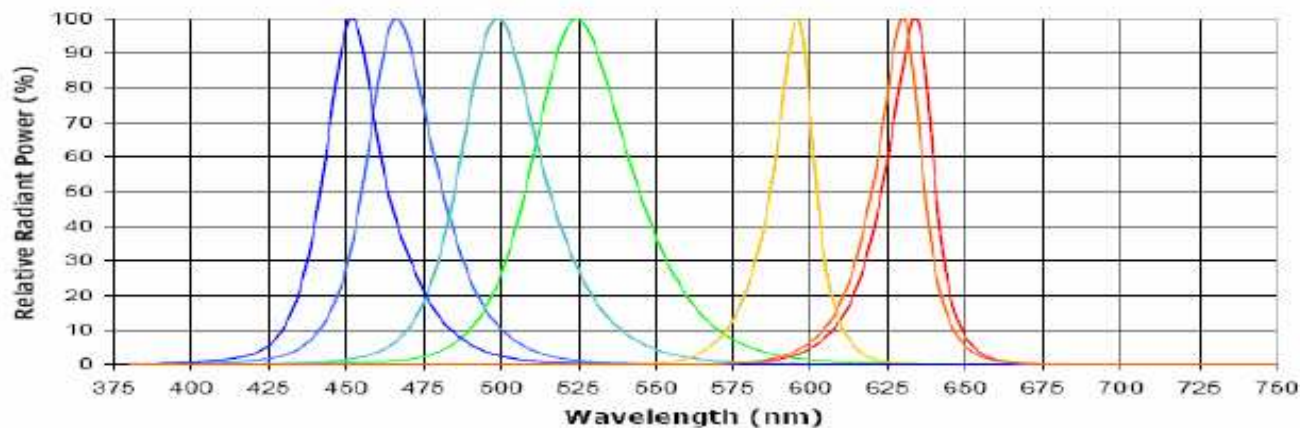
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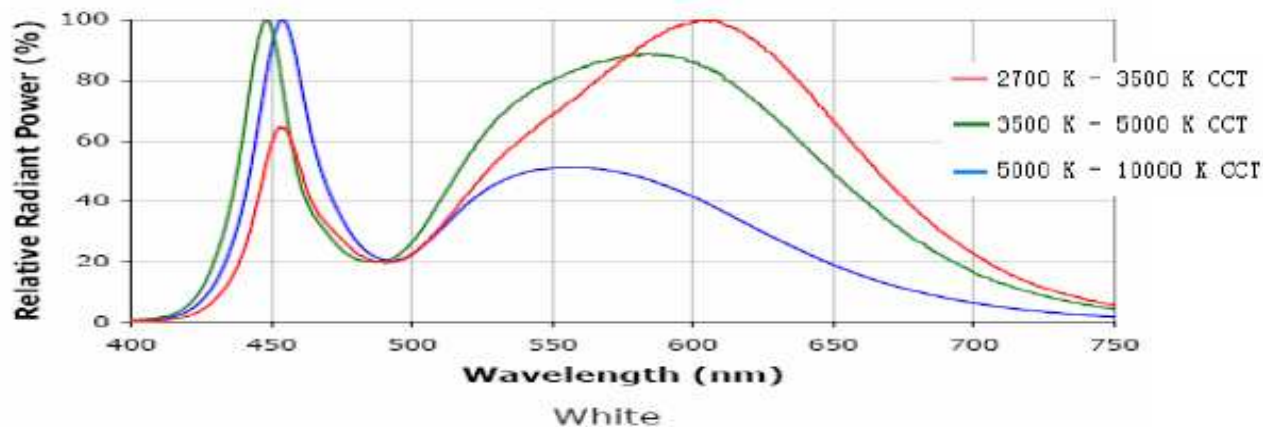
The Power of LED Light



Characteristics



Royal Blue, Blue, Green, Amber, Orange, Red



White

3535 SMT Ceramic LED	
0,2Watt	
Part No.:	M11E4001
Customer:	

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
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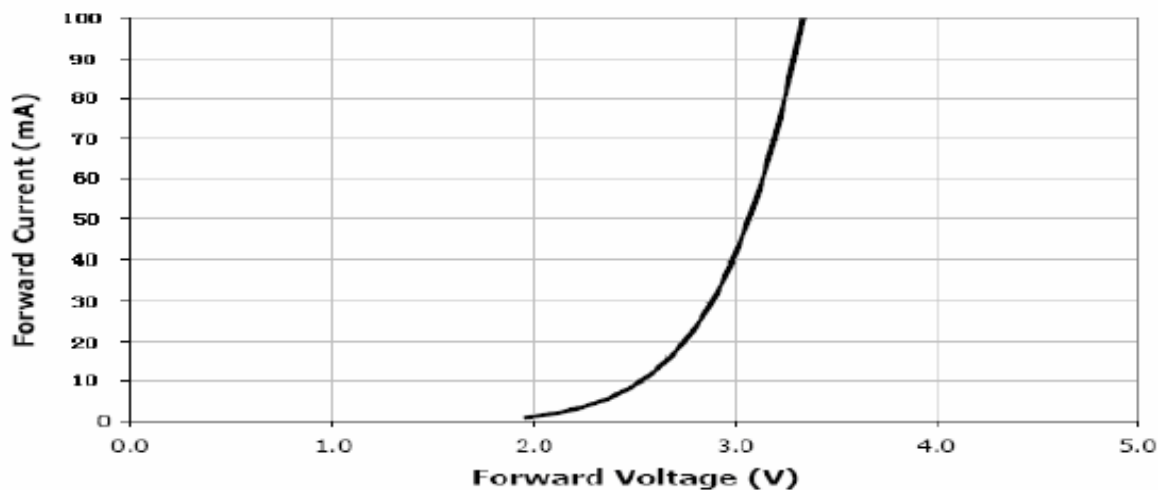
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The Power of LED Light



Characteristics



Royal Blue , Blue, Green, White

3535 SMT Ceramic LED	
0,2Watt	
Part No.:	M11E4001
Customer:	

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
APPD:	Schumi			FINISH	Jamy		Sheet No.	15 from 19	

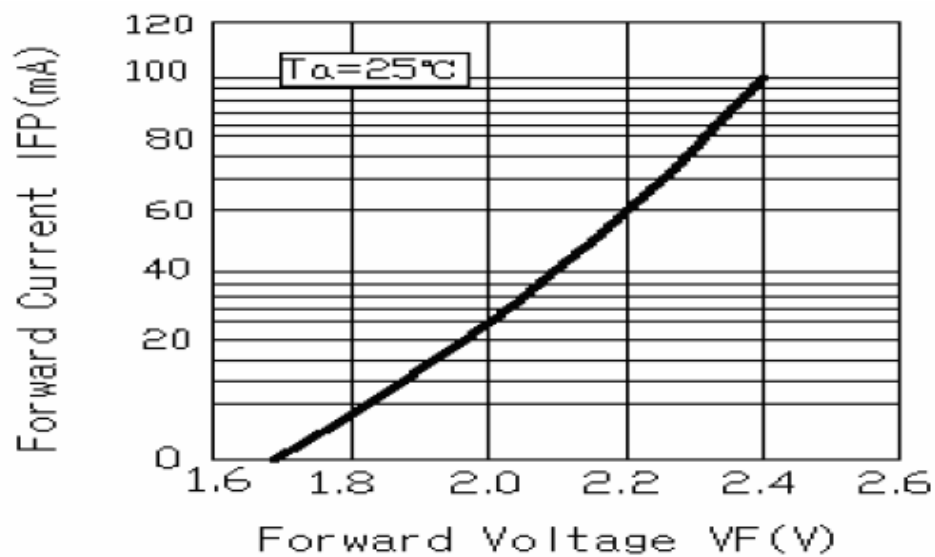
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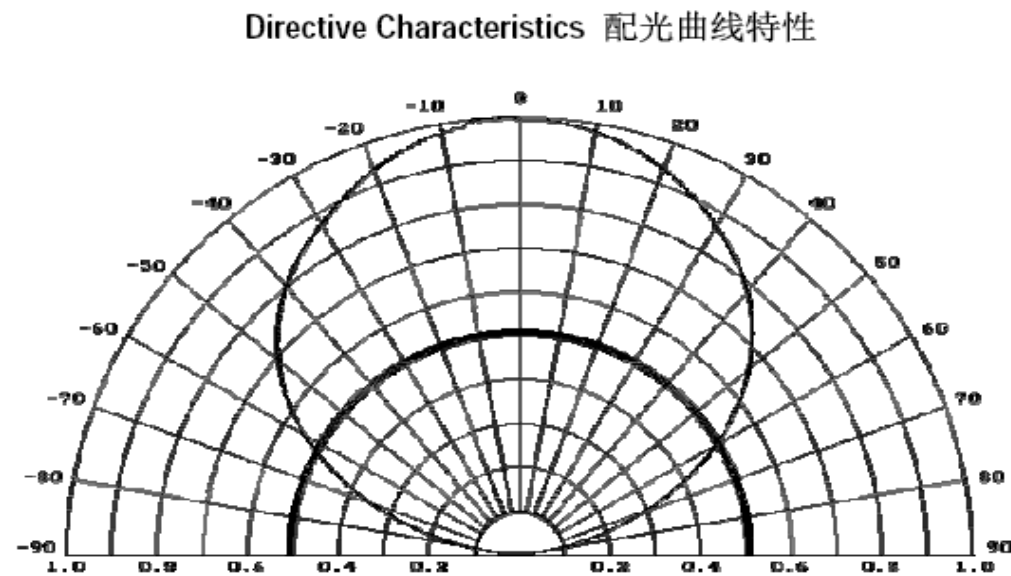
The Power of LED Light



Characteristics



Red, Amber, Orange



3535 SMT Ceramic LED	
0,2Watt	
Part No.:	M11E4001
Customer:	

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
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The Power of LED Light



Technical Informations

Test Circuit



Over Current proof

Customer must apply resistors for protection slight voltage shift will cause big current change (Burn out will happen)

Storage

It is recommended to store the products in the following conditions

Humidity: 60% R.H. max.

Temperature: 5°C~30°C (41°F ~ 86°F)

Shelf life in sealed bag: 12 months at <5°C~30°C and 30% R.H after the package is opening the products should be used within 24hrs. Or they should be kept stored at ≤20% R.H. with zip-lock sealed.

Baking

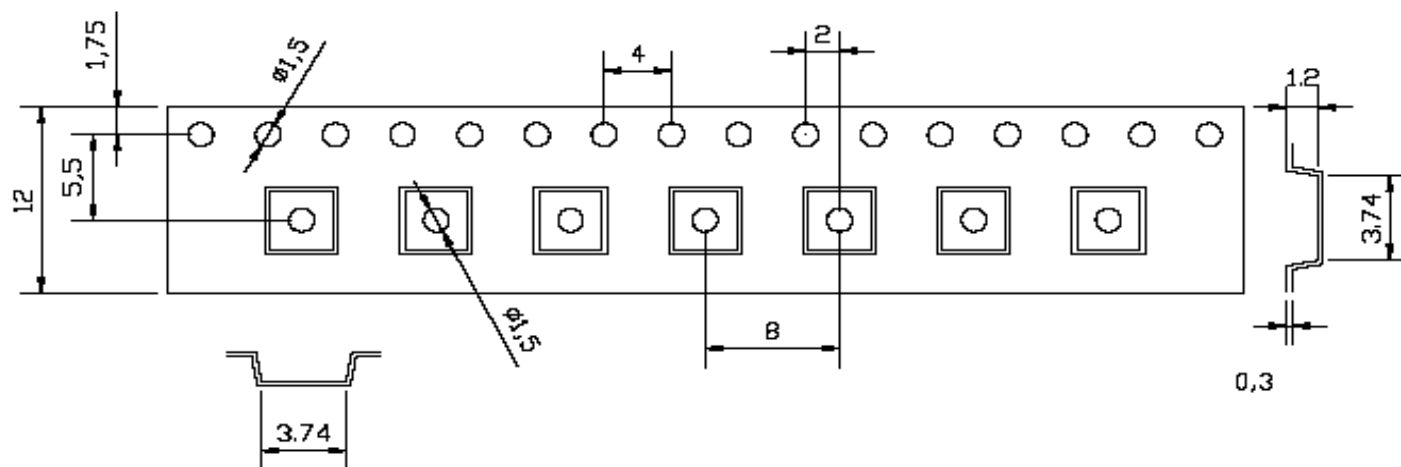
It is recommended to bake before soldering when the pack is unsealed after 24hrs. The conditions are as follows

80 +/-3°C x 10~12hrs and 5% RH taped reel type

100 +/-3°C + 1hr~2hr, bulk type

130 +/-3°C + 45min~1hr, bulk type

Tape / Reel Informations



**3535 SMT Ceramic LED
0,2Watt**

Part No.: **M11E4001**

Customer:
email: info@edcon-components.com

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
APPD:	Schumi			FINISH	Jamy		Sheet No.	17 from 19	

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The Power of LED Light



Ordering Informations

Serie	Power of LED	Quantity of Dices	Frame Size	Color of LED	Viewing Angle	Brightness Code	Bin Code CIE	ROHS Compliant	Packing	
M11E4001	A	3	3535	RB	B	xx	xx	R	TR	

A= 0,2W	3= 3 Dices	3535= 3,5x3,5mm	RB= Royal Blue	B= 120° degree	B= 120° degree	B= 120° degree	R= ROHS Conform	TR= Tape Reel
----------------	-------------------	------------------------	-----------------------	-----------------------	-----------------------	-----------------------	------------------------	----------------------

RD= Red	
GN= Green	
AM= Amber	CW= Cool White
BL= Blue	DW= Day White
OR= Orange	NW= Nature White
FU= Three Color	WW= Warm White

We cannot give you a garanty. For the same bin code order by order.

N= NON ROHS Conform

3535 SMT Ceramic LED 0,2Watt	
Part No.:	M11E4001
Customer:	

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
APPD:	Schumi			FINISH	Jamy		Sheet No.		18 from 19

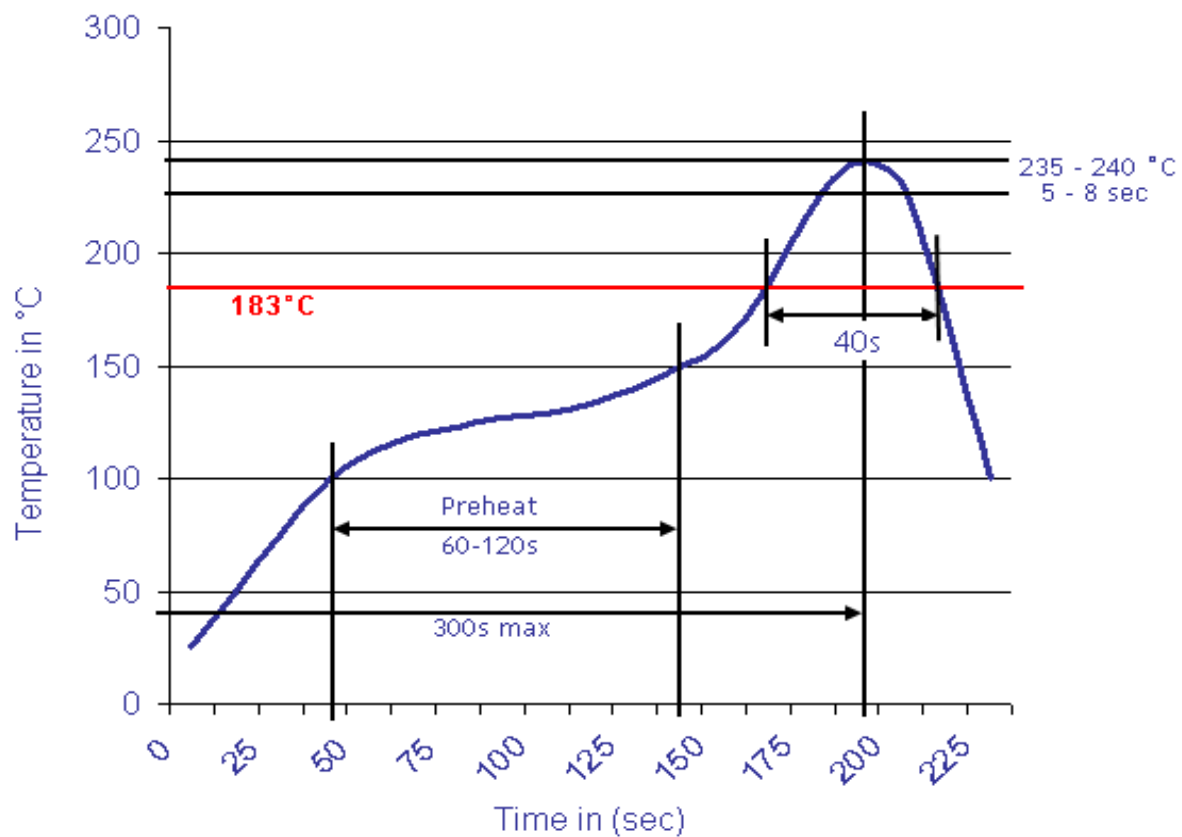


The Power of LED Light



Soldering Profile Curve

Classification Reflow Profile (JEDEC J-STD-020C)



3535 SMT Ceramic LED	
0,2Watt	
Part No.:	M11E4001
Customer:	

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	10.04.2009
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