

SPECIFICATION FOR APPROVAL

<p>CUSTOMER'S APPROVAL CHOP</p> <p>Approval's condition: _____</p> <p>Approved date: _____</p>
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KINDLY RETURN A SET WITH YOUR COMPANY'S OFFICIAL
STAMP ON APPROVAL OF THIS ITEM

CUSTOMER'S NAME: _____

CUSTOMER'S MODEL NO. : _____

CUSTOMER'S PART NO. : _____

DESCRIPTION: _____
EFD20

Semitel'S MODEL NO. : _____
EFD20-476

VERSION: _____
A

DATE: _____
2020/10/15

Attachments:

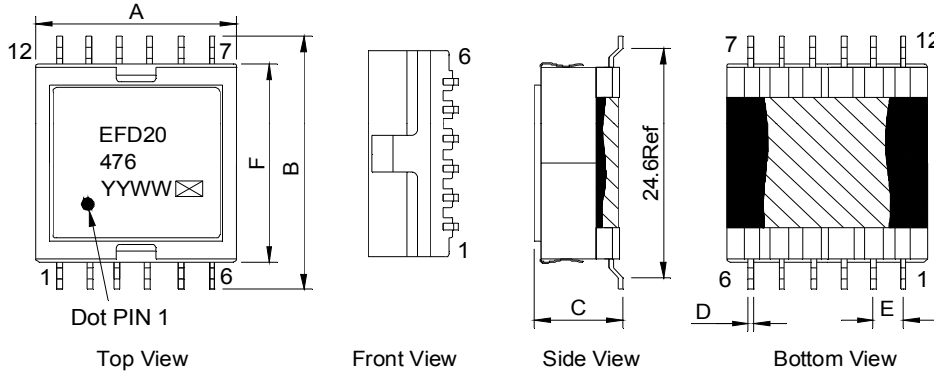
- Product specification
- Sample Qty.:
- Test data

Prepared By	Checked By	Approved By
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Product Specification

1. Physical Dimensions (Unit:mm)

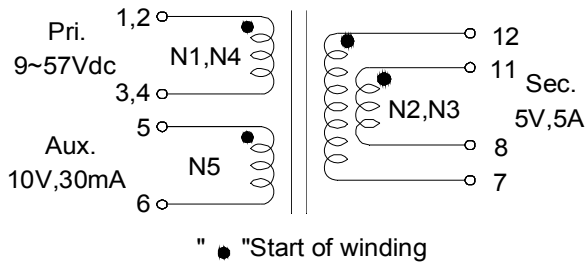


- A 21.5MAX.
- B 30.0MAX.
- C 11.5MAX.
- D 0.7±0.1
- E 3.0±0.3
- F 23.5MAX.

Notes:

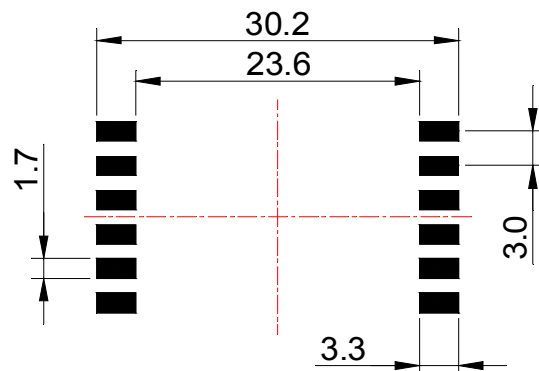
- *Marking type is laser printing
- *YY: Year Code; WW: Week Code
- * :When making samples, S is used to represent the product is a sample.
- * :Use different letters or numbers to represent the products are produced from different production lines .
- *Size B not including soldering tags
- *Coplanarity Requirement: Less than 0.10mm

2. Connection

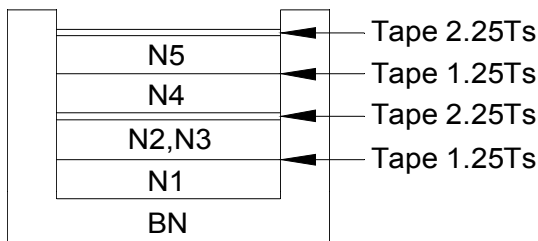


- *Customer to tie terminals 1&2,3&4,7&8 and 11&12 on PC board.
- *Application of the transformer allows for the leadwires between terminals 1&2,3&4,7&8 and 11&12 to solder bridge.

3. Recommended Pad Layout (Unit:mm)



4. Structure of Products



5. No of Turns & Wire Spec

No	No of Pin	Turns	Wire Spec
N1	1,2--3,4	8 Ts	ø0.25mm*6P P180
N2,N3	11,12--7,8	3 Ts	ø0.25mm*16P P180
N4	1,2--3,4	8 Ts	ø0.25mm*6P P180
N5	5--6	6 Ts	ø0.25mm*1P P180

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6. Electrical Characteristics

*Operating temperature:-40°C to +125°C.

*Storage temperature range: -40°C to +125°C .

Items	Winding	Specifications	Test Conditions
Inductance	L(1,2-3,4)	9uH±10%	at 250kHz,0.1Vrms
LK-Inductance	LK(1,2-3,4) Tie5,6,7,8,11,12	0.25uH MAX.	at 250kHz,0.1Vrms
DCR	R(1,2-3,4)	13.5mΩ MAX.	at 25°C
	R(11,12-7,8)	3.5mΩ MAX.	
	R(5-6)	280mΩ MAX.	
Turns Ratio	(1,2-3,4):(11,12-7,8):(5-6)	1:0.375:075;±3%	at 250kHz,0.1Vrms
Hi-Pot	Pri.To Sec.	1500VAC	0.5mA.1Sec
	Pri.To Aux.	500VAC	0.5mA.1Sec
	Win.To Core	500VAC	0.5mA.1Sec

7.Bill of Material

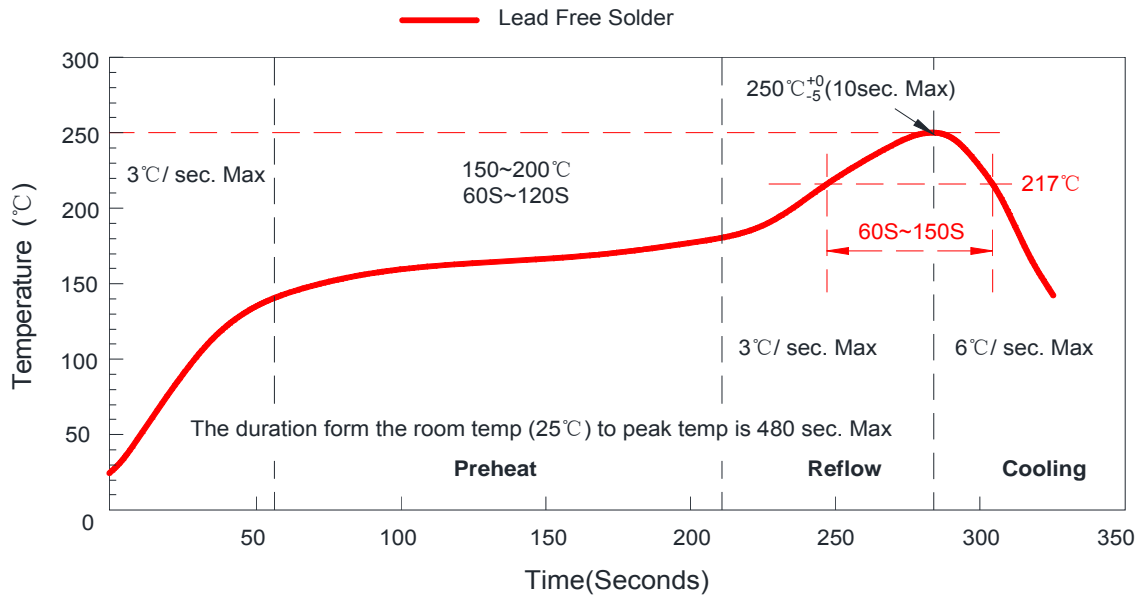
No	Items	Material Name	Manufacturer	UL File No	SGS File No
1	Core	FERRITE CORE JCP-95	FCRI or Equivalent	NIL	A2200234874101001R1
2	Bobbin	PM-9630	SUMITOMO (SumiDurez) or Equivalent	E41429	SHAEC2002442505
3	CLIP	SUS301	TONG FENG or Equivalent	NIL	SZXEC2001378801
4	Copper Wire	Polyurethane bare wire (Cu) Polysol 180	ELEKTRISOLA or Equivalent	E258243	CE/2020/34972
OR	Copper Wire	Polyurethane wire UEWH/U	PACIFIC or Equivalent	E201757	A219029024010101E
5	Polyimide Tape	Brown adhesive plastic HN NC 0.025mm V-0	RUNSEA (RAYITEK)or Equivalent	E339977	SZXEC2000536905
6	EPOXY	TH320	TIAN HUAN or Equivalent	E257593	SZXEC1902353001
7	EPOXY	EB-360	CHANGFENG or Equivalent	NIL	SHAEC1925290501
8	Varnish	ZS-NJ-D938XX	ZHAOSHUN or Equivalent	E329120	CANEC2003028910
9	Solder	Lead free solder	HONGTAIZHOU or Equivalent	NIL	SZXEC2001415205

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8.Recommended Temperature Conditions of Air Reflow Soldering

Test Solderability Temperature Profile



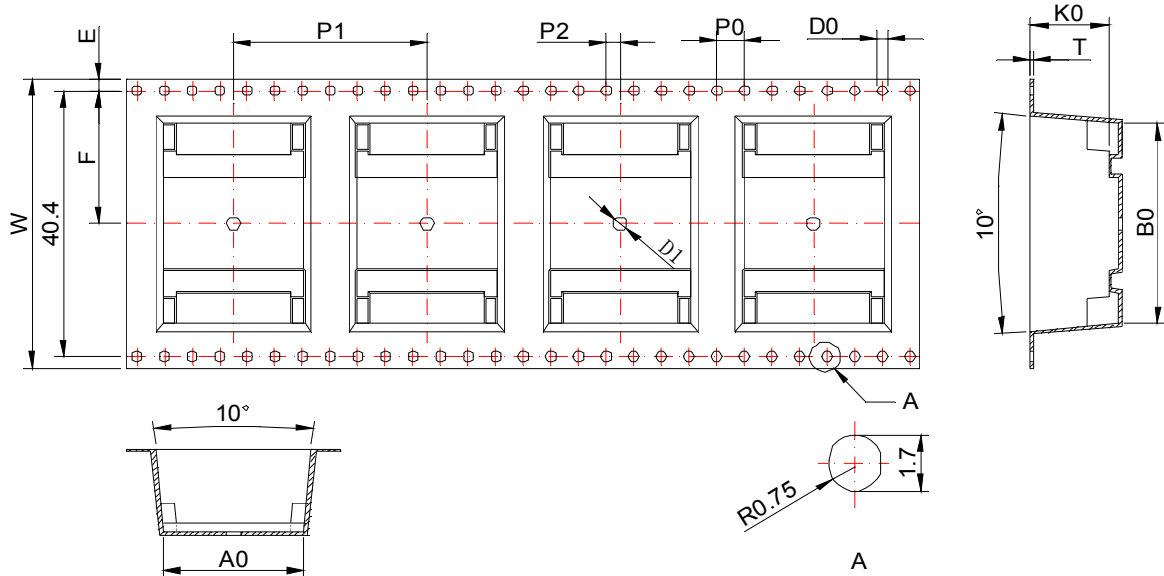
Profile Feature	
Average Ramp-Up Rate (T _{smax} to T _p)	3°C/Second Max.
Preheat	
-Temperature Min. (T _{smin})	150°C
-Temperature Max. (T _{smax})	200°C
-Time (T _{smin} to T _{smax})	60-120 Seconds
Time maintained above:	
-Temperature (T _L)	217°C
-Time (T _L)	60-150 Seconds
Peak/Classification Temperature (T _p)	250°C
Time within 5°C of actual PeakTemperature (T _p)	10 Seconds Max.
Ramp-Down Rate	6°C/Second Max.
Time 25°C to Peak Temperature	8 Minutes Max.

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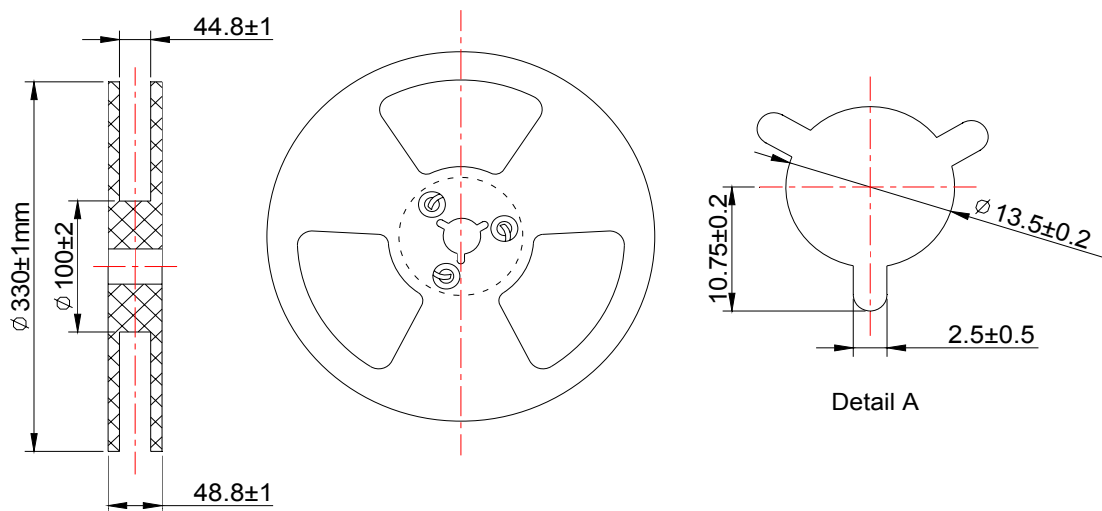
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9. Tape and Reel Dimensions (Unit: mm)

*Packing information is according with EIA-841 standard, When W=32mm and other wider tapes that should have elongated sprocket holds on the other side.



ITEM	A0	B0	K0	P0	P1	P2
DIM	20.3±0.3	30.5±0.3	11.3±0.3	4.0±0.1	28.0±0.1	2.0±0.15
ITEM	W	T	E	F	D0	D1
DIM	44.0±0.3	0.5±0.05	1.75±0.1	20.2±0.15	∅1.5±0.1	∅2.0±0.1

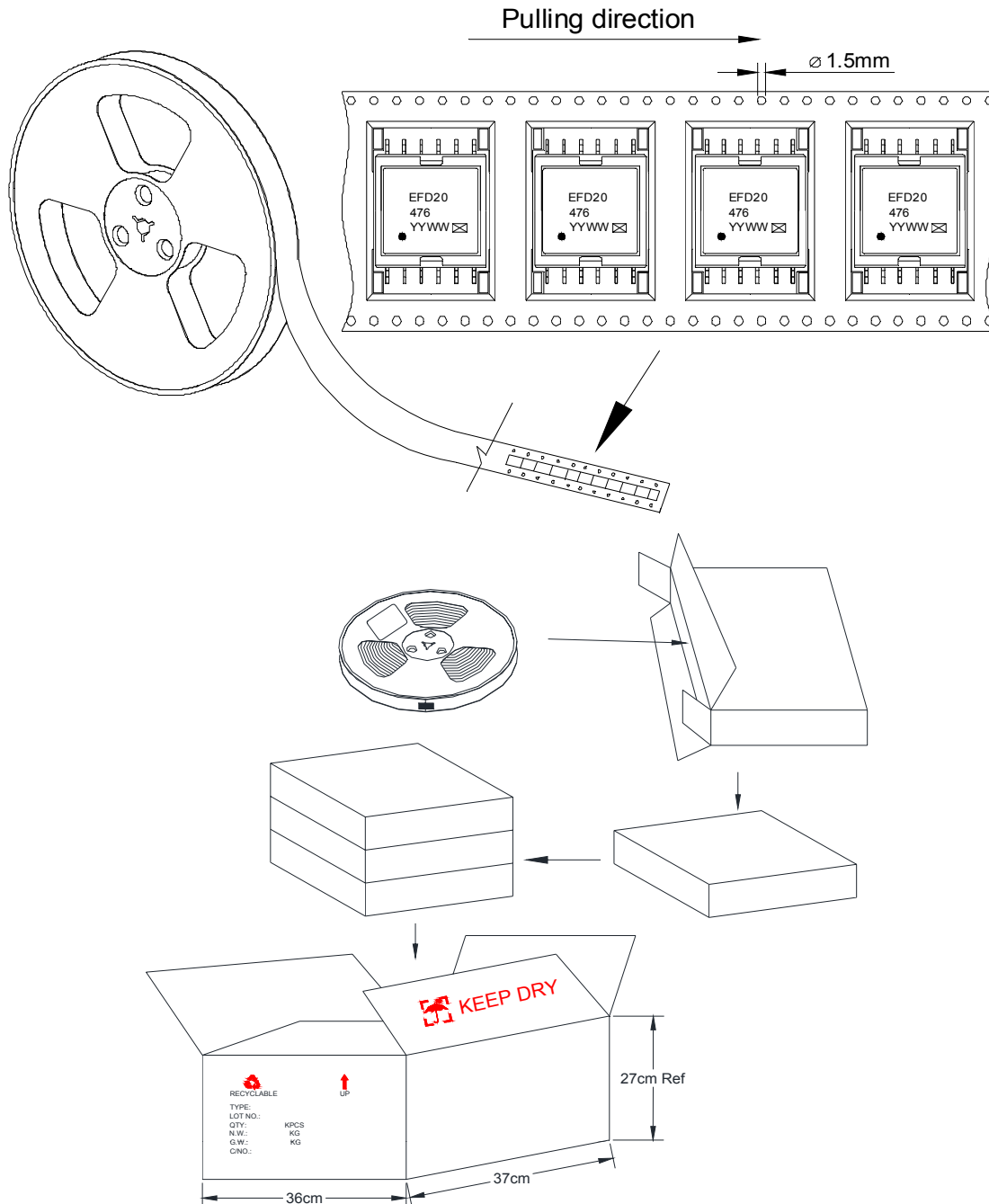


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10.Packing Request

- (1), Every roll of the carrier tape can contain 125pcs products.
- (2), Every small packing box contains one rolls of carrier tape. Total quantity: 125pcs.
- (3), Every carton box contains 3 small packing boxes. Total quantity: 375pcs.



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Test Report

Test Instruments									
HP4284A		DCR METER 131			HP4284A	CS2670A			
NO	Inductance	LK-Inductance	DCR			Turns Ratio	Hi-Pot		
	at 250kHz,0.1Vrms	at 250kHz,0.1Vrms	at 25°C			at 250kHz,0.1Vrms	0.5mA.1Sec		
	L(1,2-3,4)	LK(1,2-3,4) Tie5,6,7,8,11,12	R(1,2-3,4)	R(11,12-7,8)	R(5-6)	(1,2-3,4):(11,12-7,8):(5-6)	Pri.To Sec.	Pri.To Aux.	Win.To Core
	9uH±10%	0.25uH MAX.	13.5mΩ MAX.	3.5mΩ MAX.	280mΩ MAX.	1:0.375:075;±3%	1500VAC	500VAC	500VAC
1	9.00	0.15	9.00	2.80	106.00	Passed	Passed	Passed	Passed
2									
3									
4									
5									
MIN.	9.00	0.15	9.00	2.80	106.00				
MAX.	9.00	0.15	9.00	2.80	106.00				
AVG.	9.00	0.15	9.00	2.80	106.00				
Result	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
Overall Dimensions Test					Measurement Tools: Caliper (Unit:mm)				
NO	A	B	C	D	E	F			
	21.5MAX.	30.0MAX.	11.5MAX.	0.7±0.1	3.0±0.3	23.5MAX.			
1									
2									
3									
4									
5									
MIN.	0.00	0.00	0.00	0.00	0.00	0.00			
MAX.	0.00	0.00	0.00	0.00	0.00	0.00			
AVG.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Result	Passed	Passed	Passed	Passed	Passed	Passed			

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