

SPECIFICATION FOR APPROVAL

CUSTOMER'S APPROVAL CHOP

Approval's condition: _____

Approved date: _____

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. :

EFD20-427

VERSION:

A

DATE:

2020/4/22

Attachments:

- Product specification
- Sample Qty.:
- Test data

Prepared By	Checked By	Approved By
Hebe Deng 2020/4/22	Liang Wang 2020/4/22	Alan Wong 2020/4/22

Semitel International Ltd.,	TEL: 886-2-86922121 FAX: 886-2-26483379
www.semitelint.com	12F, No.183, Sec.1, Datong Rd., Xizhi Dist., New Taipei City 22145, Taiwan

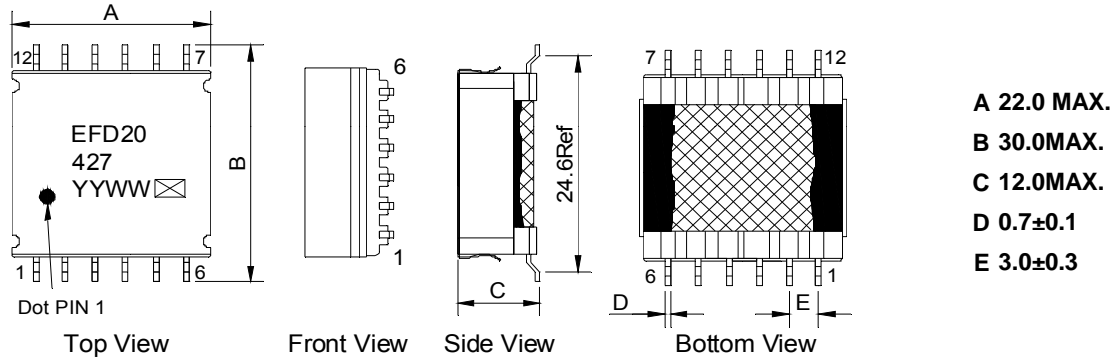
Revision Record

Version	Revision Date	Revision For Items	Reason For Revision
A	2020/4/22	New Revision	-

Semitel'S MODEL NO. :	EFD20-427	CUSTOMER'S MODEL NO.:	
VERSION :	A	CUSTOMER'S PART NO. :	
DATE :	2020/4/22		

Product Specification

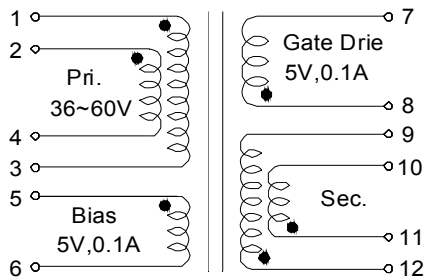
1. Physical Dimensions (Unit:mm)



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 0.15mm

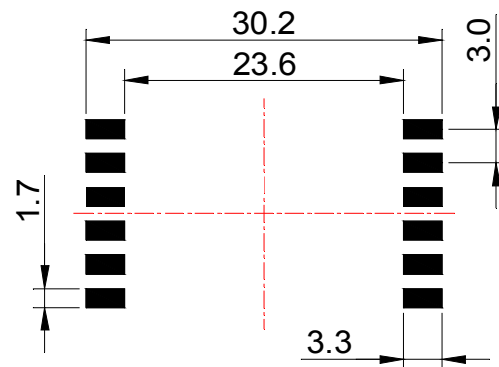
2. Connection



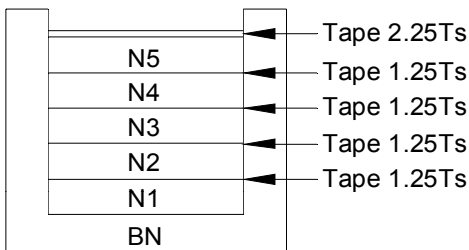
" • "Start of winding

- *Customer to tie terminals 9&10 and 11&12 on PC board.
- *Application of the transformer allows for the leadwires between terminals 9&10 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--3	39 Ts	ø0.24mm*1P P180
N2	12,11--10,9	22 Ts	ø0.24mm*4P P180
N3	2--4	39 Ts	ø0.24mm*1P P180
N4	5--6	10 Ts	ø0.20mm*1P P180
N5	8--7	10 Ts	ø0.20mm*1P P180

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6. Electrical Characteristics

*Operating temperature:-40°C~+125°C.

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

Items	Winding	Specifications	Test Conditions
Inductance	L(1,2-3,4)	120uH±10%	at 200kHz,0.1Vrms
LK-Inductance	LK(1,2-3,4) Tie other	1.0uH MAX.	at 200kHz,0.1Vrms
DCR	R(1,2-3,4)	300mΩ MAX	at 25°C
	R(5-6)	300mΩ MAX	
	R(11,12-10,9)	90mΩ MAX	
	R(8-7)	300mΩ MAX	
Turns Ratio	(1,2-3,4):(5-6):(12,11-10,9): (8-7)	39:10:22:10;±3%	at 200kHz,0.1Vrms
Hi-Pot	Pri. To Sec.	1500VAC	5 mA.3Sec
	Pri. To Aux.	500VAC	5 mA.3Sec
	Win. To Core	750VAC	5 mA.3Sec

7. Bill of Material

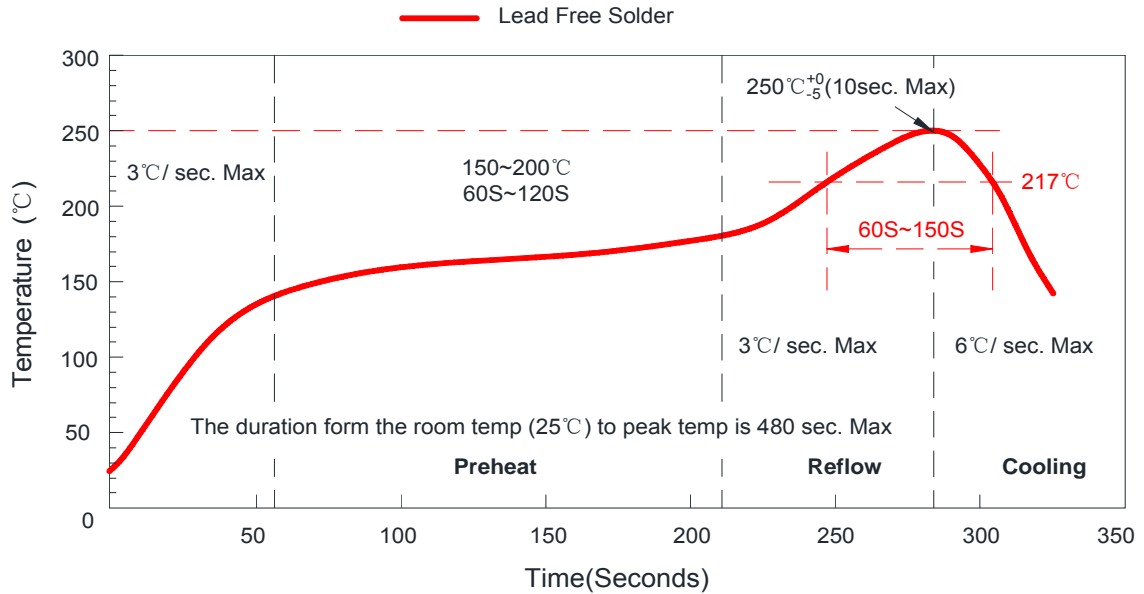
No	Items	Material Name	Manufacturer	UL File No	SGS File No
1	Core	FERRITE CORE JCP-95	FCRI or Equivalent	NIL	CANEC1913430901
2	Bobbin	PM-9630	SUMITOMO (SumiDurez) or Equivalent	E41429	SHAEC2002442505
3	CLIP	SUS301	TONG FENG or Equivalent	NIL	SZXEC1901434601
4	Copper Wire	Polyurethane bare wire (Cu) Polysol 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	SZXEC1900617511
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	CANEC1903703503
9	Solder	Lead free solder	HONGTAIZHOU or Equivalent	NIL	CANEC1911577101

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8.Recommended Temperature Conditions of Air Reflow Soldering

Test Solderability Temperature Profile



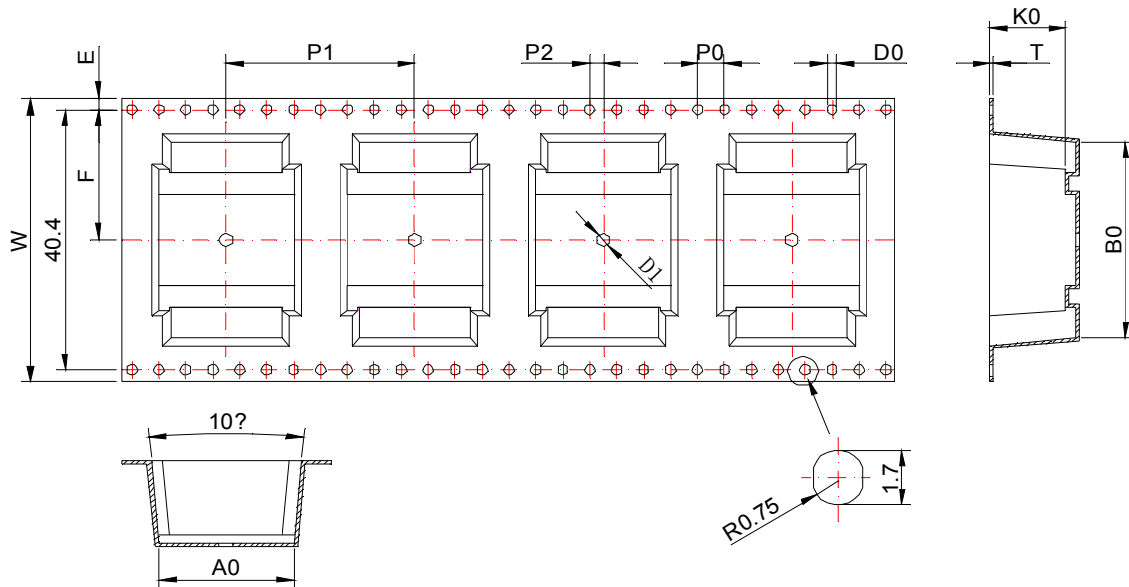
Profile Feature	
Average Ramp-Up Rate (T _{smax} to T _p)	3°C/Second Max.
Preheat	
-Temperature Min. (T _{smin})	150°C
-Temperature Max. (T _{smax})	200°C
-Time (T _{smin} to T _{smax})	60-120 Seconds
Time maintained above:	
-Temperature (T _L)	217°C
-Time (T _L)	60-150 Seconds
Peak/Classification Temperature (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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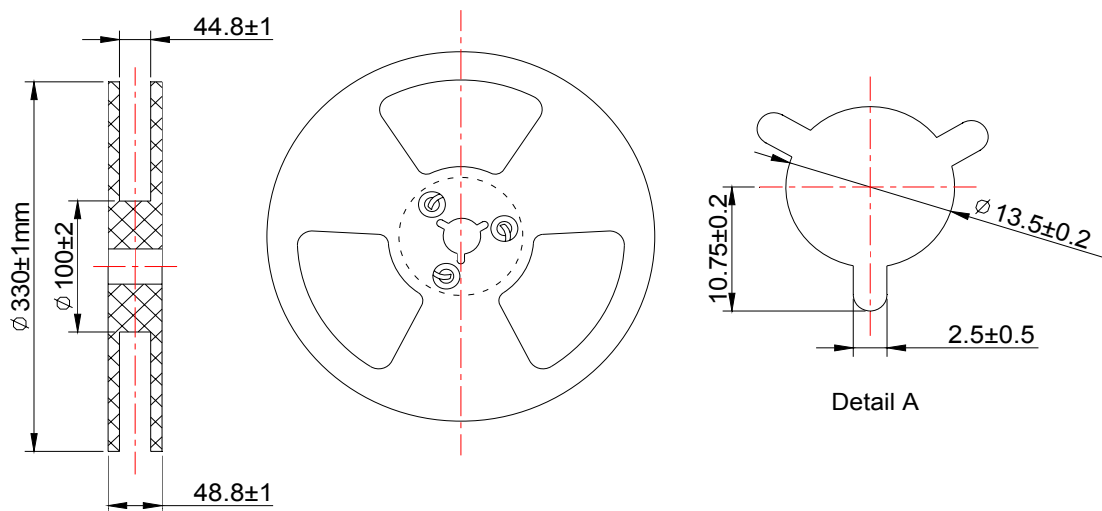
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9. Tape and Reel Dimensions (Unit: mm)

*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	21.5 ± 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} ₀	∅ 2.0 ^{+0.1} ₀

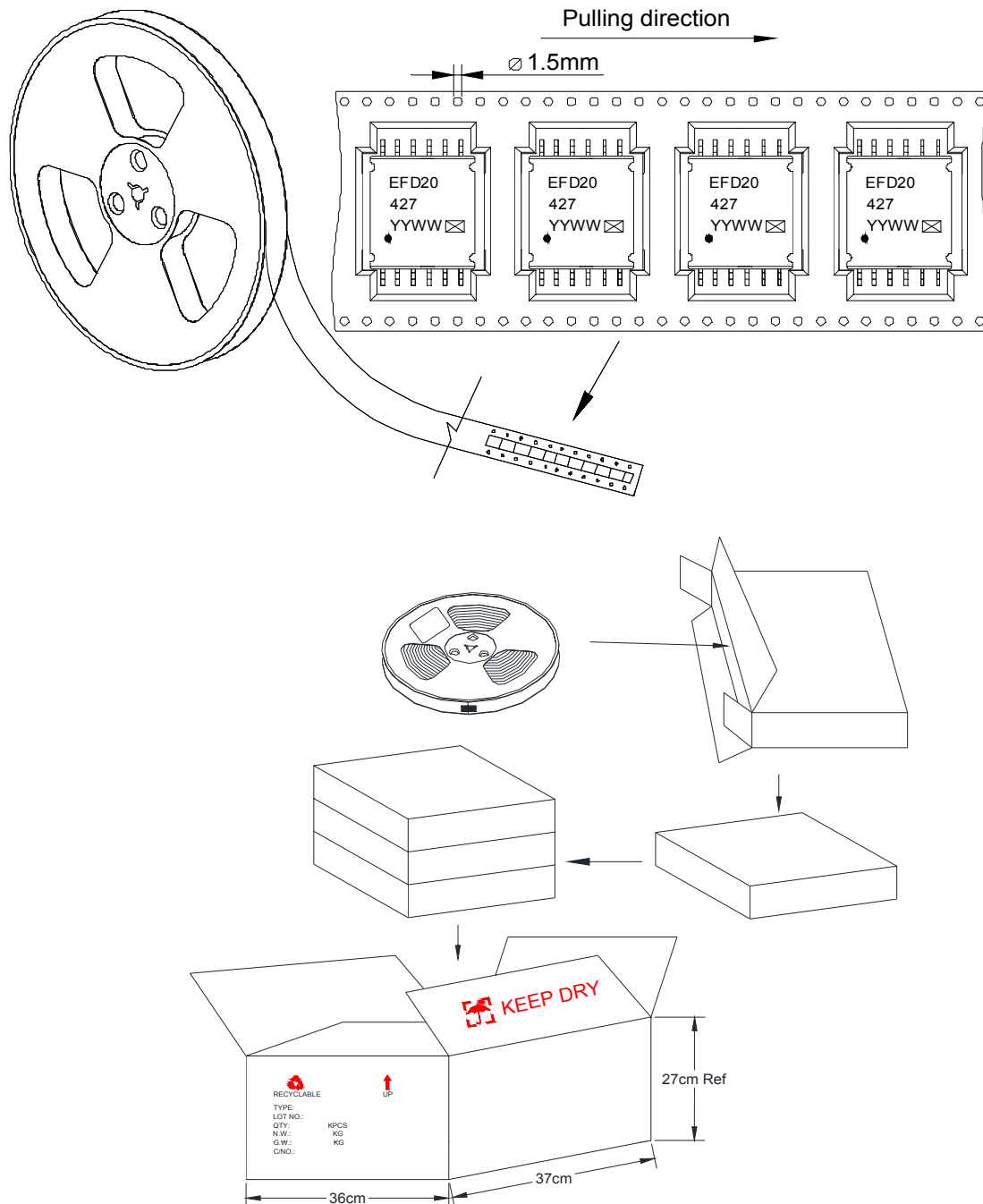


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10.Packing Request

- (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	Inductance	DCR				Turns Ratio	Hi-Pot		
	at 200kHz,0.1Vrms	at 200kHz,0.1Vrms	at 25°C	at 25°C	at 25°C	at 25°C	at 200kHz,0.1Vrms	5 mA.3Sec	5 mA.3Sec	5 mA.3Sec
	L(1,2-3,4)	LK(1,2-3,4) Tie other	R(1,2-3,4)	R(5-6)	R(11,12-10,9)	R(8-7)	(1,2-3,4):(5-6):(12,11-10,9):(8-7)	Pri. To Sec.	Pri. To Aux.	Win. To Core
	120uH±10%	1.0uH MAX.	300mΩ MAX	300mΩ MAX	90mΩ MAX	300mΩ MAX	39:10:22:10;±3%	1500VAC	500VAC	750VAC
1										
2										
3										
4										
5										
MIN.	0.00	0.000	0.00	0.00	0.00	0.00				
MAX.	0.00	0.000	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	Passed	Passed	Passed	Passed
Overall Dimensions Test						Measurement tools: Caliper (Unit:mm)				
NO	A	B	C	D	E					
	22.0 MAX.	30.0MAX.	12.0MAX.	0.7±0.1	3.0±0.3					
1										
2										
3										
4										
5										
MIN.	0.00	0.00	0.00	0.00	0.00					
MAX.	0.00	0.00	0.00	0.00	0.00					
AVG.	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!					
Result	Passed	Passed	Passed	Passed	Passed					
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