



DEQING HUAYING ELECTRONICS CO.,LTD.

# APPROVAL SHEET

## SAW BANDPASS FILTER PART NO.: NDFH058-2590SA

<b>Product Type:</b>		<b>Customer:</b>	
SAW Filter			
<b>Part NO.:</b>		<b>Customer Part NO.:</b>	
NDFH058-2590SA			
<b>Ver. Ctrl.:</b>		<b>Issued Date:</b>	
SFH058-2590SA -190305-v1.0			

PREPARED BY	CHECKED BY	APPROVED BY

Part No.	:	NDFH058-2590SA
Pages	:	7
Data	:	2019-03-05
Revision	:	SFH058-2590SA -190305-v1.0

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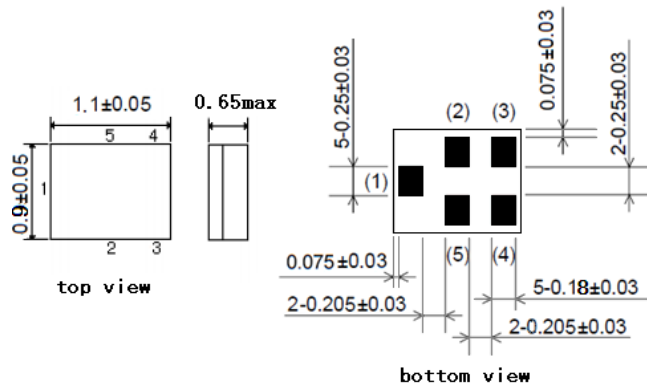


**Features**

- 1 TD-LTE band 41(2535-2655MHz) Rx filter.
- 2 Low – loss RF filter for mobile telephone.
- 3 Narrow Band 41 systems.
- 4 Usable pass band 120MHz(110MHz included).
- 5 50Ω/50Ω unbalanced to unbalanced operation for all filters.
- 6 Low insertion attenuation.
- 7 Package size 1.1mm\*0.9mm
- 8 RoHS compatible.

**Package Dimensions**

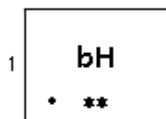
Ceramic Package: Unit: mm



**Pin Configuration**

1	Input
4	Output
2,3,5	Ground

**Marking**



Top View, Laser Marking

"bH" Part number

“.” Dot marking, indicates input 1

" 1" Terminal1

The first “\*”: Month Code (The code shown below varies in a 4-year-cycle)

Month	1	2	3	4	5	6	7	8	9	10	11	12
2016/2020	n	p	q	r	s	t	u	v	w	x	y	z
2017/2021	A	B	C	D	E	F	G	H	J	K	L	M
2018/2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2019/2023	a	b	c	d	e	f	g	h	i	j	k	m

The second “\*”: Date Code

<b>data</b>	1st	2nd	3rd	4th	5th	6th	7th	8th	th	10th	
code	A	B	C	D	E	F	G	H	J	K	
<b>data</b>	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	
code	L	M	N	P	Q	R	S	T	U	V	
<b>data</b>	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
code	W	X	Y	Z	a	b	d	e	f	g	h

## Maximum Ratings

Rating		Value	Unit
DC Voltage (between any Terminals)	$V_{DC}$	5	V
Input power	$P$	10dBm/8000hrs	
Operating Temperature Range	$T_A$	-30~ +85	°C
Storage Temperature Range	$T_{stg}$	-40 ~ +85	°C
ESD voltage(Machine Model)	$V_{ESD}$	150	V
Moisture Sensitivity Levels	$MSL$	2A	

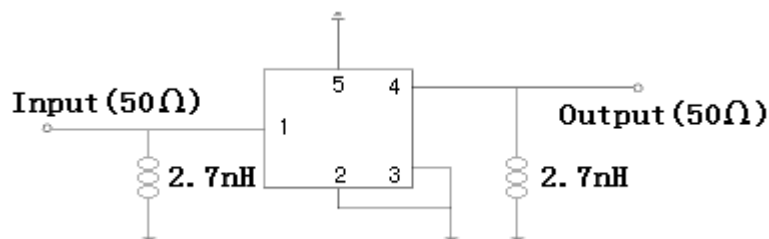
## Electrical Characteristics:

Item		Minimum	Typical	Maximum	Unit
Center Frequency	$F_o$		2590		MHz
Insertion Loss	$IL$				
2535 ... 2655 MHz			1.5	2.5	dB
Passband Ripple	$Pr$				
2535 ... 2655 MHz			0.6	1.6	dB
Input VSWR 2535 ... 2655 MHz	$V_{swr}$		1.6	2.2	
Output VSWR 2535 ... 2655 MHz	$V_{swr}$		1.7	2.2	
Absolute Attenuation	$\alpha$				
10 .... 2170 MHz		20	23		dB
2170.... 2400 MHz		20	23		dB
2401 .... 2438 MHz		30	33		dB
2421 .... 2483 MHz		30	39		dB
2750 ....4900 MHz		23	26		dB
4900 .... 6000 MHz		20	25		dB

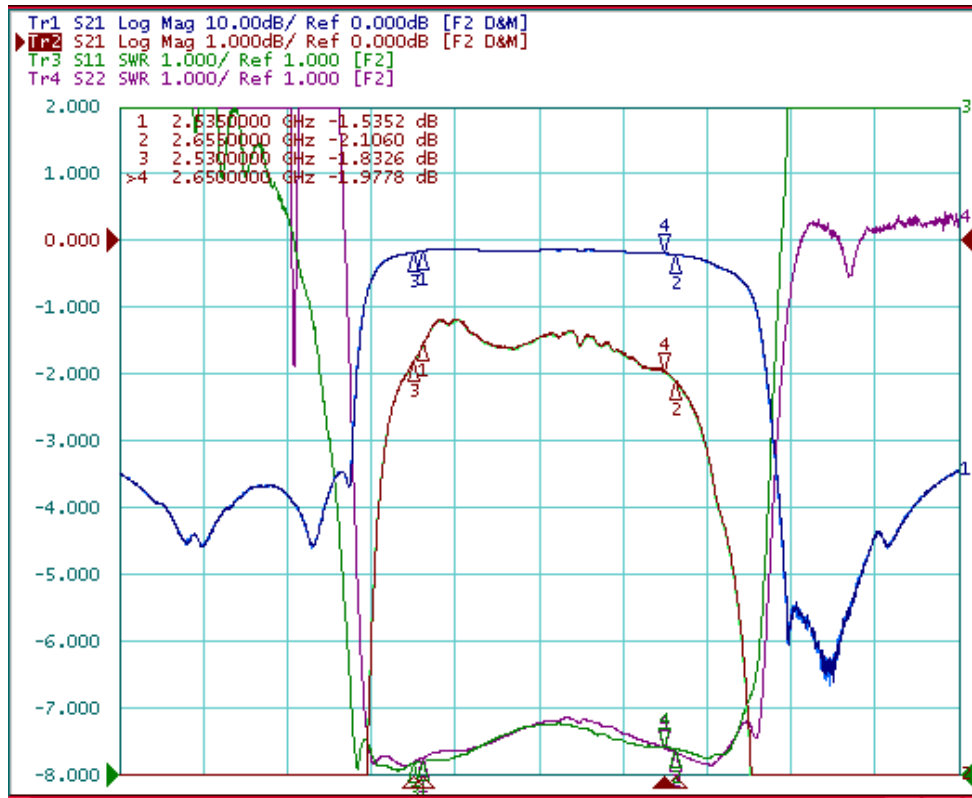
 RoHS Compliant

 Electrostatic Sensitive Device

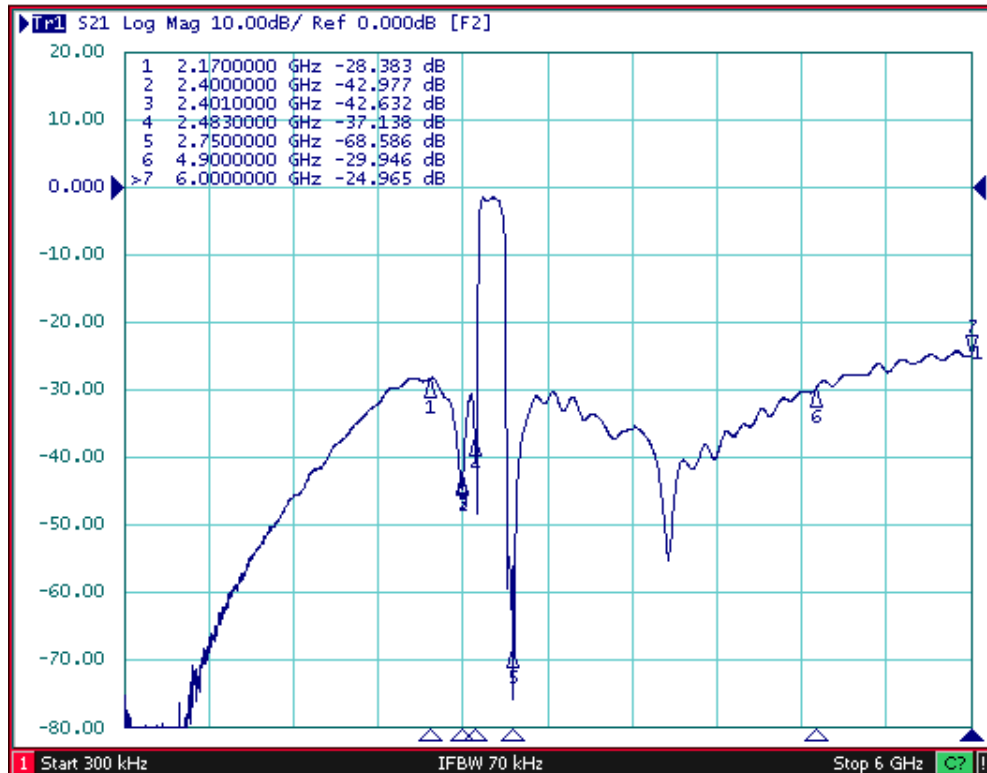
## Test Circuit



Typical Frequency Response  
S21, S11, S22



Far side



**Stability Characteristics**

Item No.	Test Item	STD Reference	Test Conditions	per lot
	Preconditioning	JESD22-A113	1) Temperature Cycling, 5 cycles -40°C to 85°C; 2) Bake, 24 hrs @85±5°C; 3)Moisture Soak, Soak time and conditions per IPC/JEDEC J-STD-020 based on device MSL level; 4) Reflow, 3 reflow cycles; 5) Drying, Room ambient temperature.	All behind
1	Temperature Cycling	JESD22-A104	-40°C / +85°C, 5°C/min, 15min dwell, <1 min transfer time, 500cycles	3*25 pcs
2	High Temperature Storage	JESD22-A103	Temperature=85°C, 1000 hours.	3*25 pcs
3	Temperature Humidity no bias	JEDEC Std A101-B	85°C 85%RH 240 hours	3*25 pcs
4	Human Body Mode ESD	JESD22-A114	Ta=25°C, ≥100V	3 pcs
5	Charge Device Mode ESD	JESD22-C101	Ta=25°C, ≥100V	3 pcs
6	Solderability	JESD22-B102	Wetting: 245°C, 5s.	22 pcs
7	Drop Test	JESD22-B111	1500 Gs, 0.5 millisecond duration, half-sine pulse.	20 pcs
8	Mechanical Shock	JESD-47	Shock pulse of 1500g with pulse duration of 0.5+/-0.1msec (X, Y & Z); 5 shocks per axis.	3*25 pcs

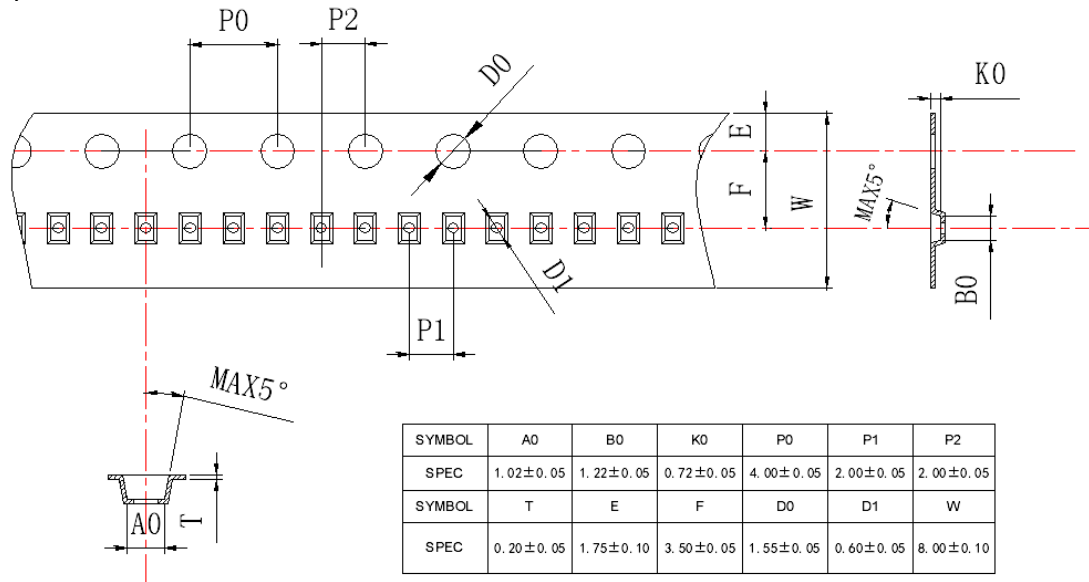
**Requirements:** The SAW filer shall remain within the electrical specifications after tests.

**Remarks**

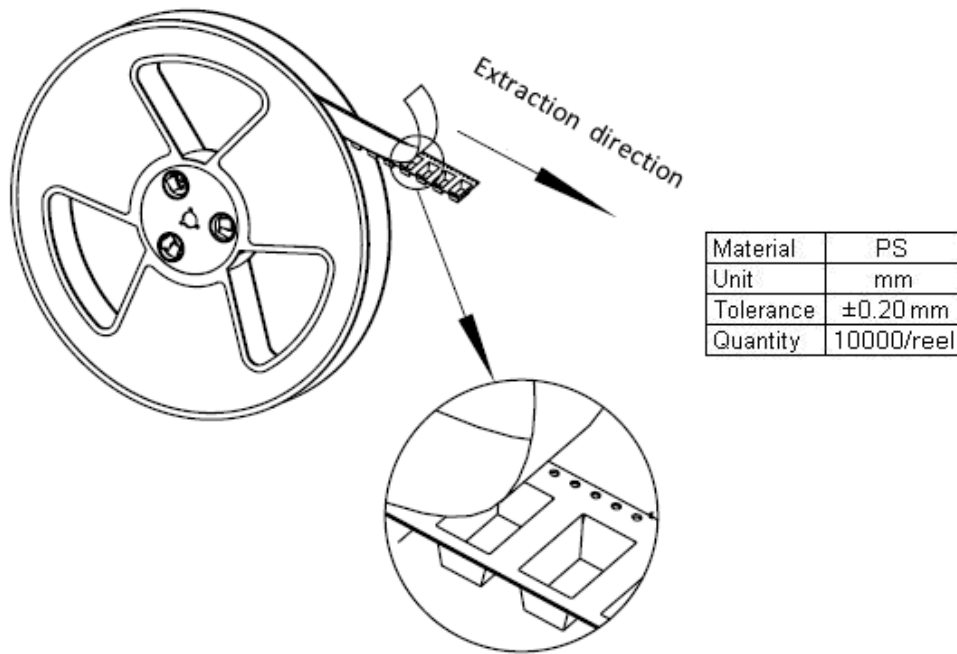
- SAW devices should not be used in any type of fluid such as water, oil, organic solvent, etc.
- Be certain not to apply voltage exceeding the rated voltage of components.
- Do not operate outside the recommended operating temperature range of components.
- Sudden change of temperature shall be avoided, deterioration of the characteristics can occur.
- Be careful of soldering temperature and duration of components when soldering.
- Do not place soldering iron on the body of components.
- Be careful not to subject the terminals or leads of components to excessive force.
- SAW devices are electrostatic sensitive. Please avoid static voltage during operation and storage.
- Ultrasonic cleaning shall be avoided. Ultrasonic vibration may cause destruction of components.

**Packing Information**

Carrier Tape



**Reel Dimensions**



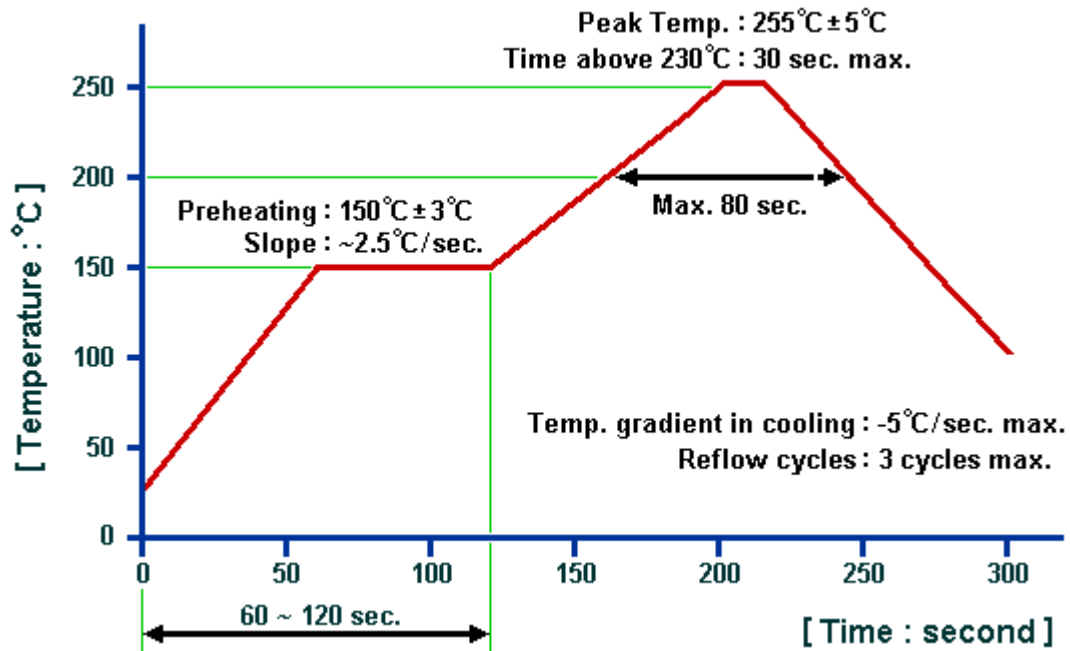
**Outer Packing**

Type	Quantity	Dimension	Description	Weight
Carton Box I	100000	240×210×285	anti-static plastic bag & carton box 1 reel / bag	2.15
Carton Box II	300000	470×310×285	10bags / box (100000 pcs) 30 bags / box (300000pcs)	6.22

Unit: mm

Unit: kg

## Recommended Soldering Profile



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1. The specifications of this device are subject to change or obsolescence without notice.
2. Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
3. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.
4. For questions on technology, prices and delivery, please contact our sales offices or e-mail [sales@dquaying.com](mailto:sales@dquaying.com).