




**SPECIFICATION SHEET**

<b>SPECIFICATION SHEET NO.</b>	Q0715-SAF868M275S134
<b>DATE</b>	July 15, 2023
<b>REVISION</b>	A0
<b>DESCRIPTION</b>	SMD SAW Filter L5.0*W5.0*H1. 50mm 5050 Type 8 Pads SAF Series 868.27500MHz, Insertion Loss: 5.4 dB Typical Bandwidth: 0.70MHz Operating Temp. Range -40°C ~+85°C, Reflow Profile Condition 260 °C Max. Tape/Reel, 1000pcs/Reel RoHS/RoHS III compliant
<b>CUSTOMER</b>	
<b>CUSTOMER PART NUMBER</b>	
<b>CROSS REF. PART NUMBER</b>	
<b>ORIGINAL PART NUMBER</b>	TGS SAF 868.275MA TLF
<b>PART CODE</b>	SAF868M275S134

<b>VENDOR APPROVE</b>			
Issued/Checked/Approved			
DATE: July 15, 2023			

<b>CUSTOMER APPROVE</b>	
DATE:	

7/16/2023

**SMD SAW FILTER 5050 TYPE SAF SERIES**

**MAIN FEATURE**

- SMD SAW Filter L5.0\*W5.0\*H1. 50mm 5050 Type 8 Pads
- Low-loss SAW Components
- Low Amplitude Ripple
- Sharp Rejection As Both Out-bands
- Usable Passband 0.70MHz
- Package code QCC8C
- Electronic Sensitive Device (ESD)
- Cross More Competitors Part
- RoHS/RoHS III Compliant



**APPLICATION**

- Bluetooth, wireless communication set
- Communication Electronics

**RFQ**  
Request For Quotation

**PART CODE GUIDE**

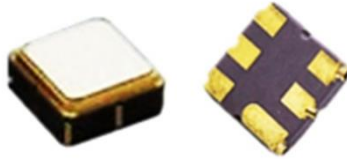
<b>SAF</b>	<b>868M275</b>	<b>S</b>	<b>134</b>
1	2	3	4

- 1) SAF: SMD SAW Filter L5.0\*W5.0\*H1.50mm 5050 Type 8 Pads SAF Series
- 2) 868M275: Frequency range code for 868.2750MHz
- 3) S: SMD type, Package Tape/Reel,
- 4) 134: Internal code (A~Z or 1~9 or Blank) for custom specification

**SMD SAW FILTER 5050 TYPE SAF SERIES**

**DIMENSION (Unit: mm, Tol.: +/-0.15mm)**

Image for reference



**Marking**

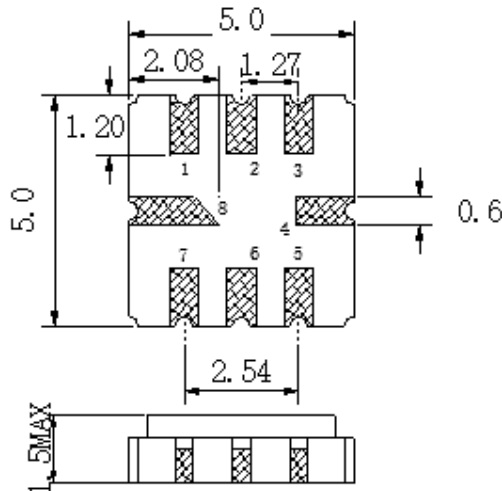
Line 1: Internal code

Line 2: ● Pin 1 + Special code

**SAF series**

L5.0\*W5.0\*H1.50mm

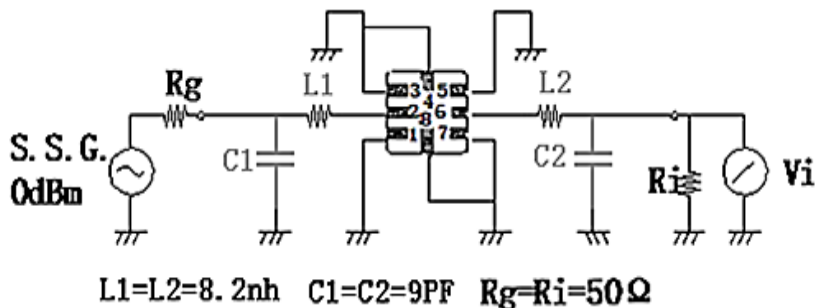
5050 Type



Pin	Configuration
2	Input
6	Output
1,3,5,7	To be Grounded
4,8	Case Ground

**Test Circuit**

(Bottom View)



**SMD SAW FILTER 5050 TYPE SAF SERIES**
**ELECTRICAL PARAMETERS**

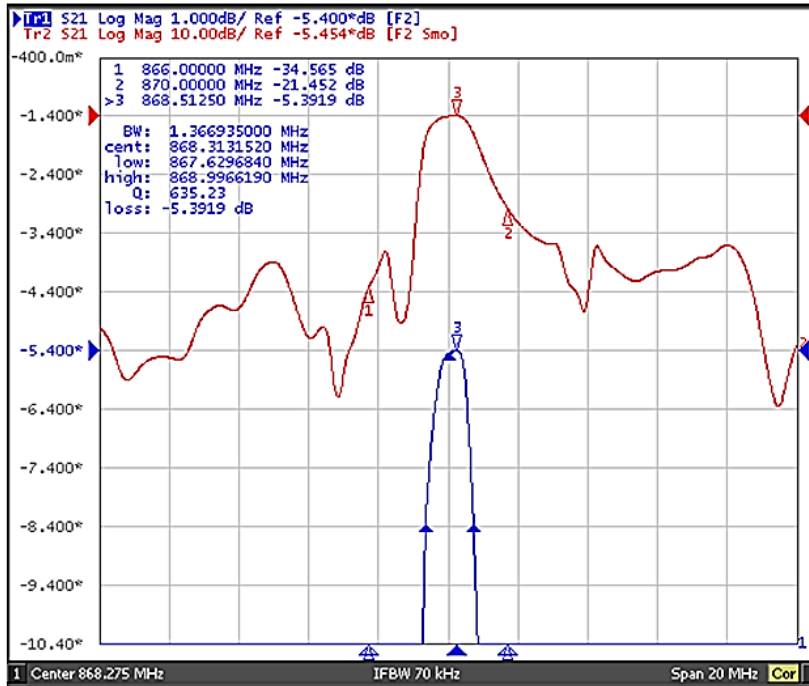
Parameter	Part No. Symbol	Units	Value			
			Min.	Typical	Max.	
Original Manufacturer	TGS		TGS Crystals			
Holder Type	SAF		SMD SAW Filter, L5.0*W5.0*H1.50mm 5050 Type 8 Pads			
Center Frequency (fc)	868.275M	MHz	868.27500			
DC Voltage (VDC)	A	V		3.0		
Operation Temperature Range (T)		°C	-40		+85	
Storage Temperature Range (Tstg)		°C	-40		+85	
RF Power Dissipation (P)		dBm		10		
Insertion Loss (Min.) (IL)		dB		5.4	6.0	
Amplitude Ripple (p-p) ( $\Delta a$ )		dB		0.5	1.0	
1 dB Bandwidth BW1dB		MHz	0.7	0.9		
3 dB Bandwidth BW3dB		MHz	1.0	1.3		
Absolute Delay 868.275MHz		ns		450.0	1500.00	
Group Delay Ripple 867.925-868.625MHz (GDR)		ns		200.0	250.00	
Aging (Absolute Value during the First Year)		ppm/y		$\leq \pm 10$		
Input VSWR 915.00 -917.00 MHz				/	/	
Output VSWR 915.00 -917.00 MHz				/	/	
Absolute Attenuation (a)		848.00 MHz	dB	30.0	48.0	
		866.00 MHz		20.0	35.0	
		870.00 MHz		15.0	20.0	
	888.00 MHz	30.0		42.0		
Package	T		Tape/Reel			
RoHS Status	LF		RoHS III compliant			
Add Value			Blank: N/A			
Internal Control Code			Blank: N/A			

Electronic Characteristics: 1) Test Temperature: 25°C±2°C 2) Terminating source impedance: 50Ω 3) Terminating load impedance: 50Ω

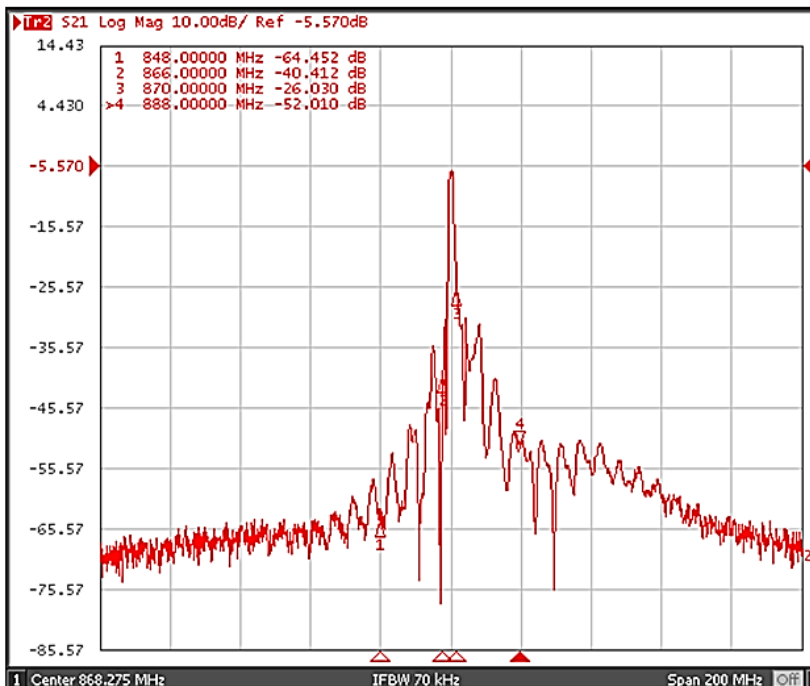
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**SMD SAW FILTER 5050 TYPE SAF SERIES**

**FREQUENCY CHARACTERISTICS**



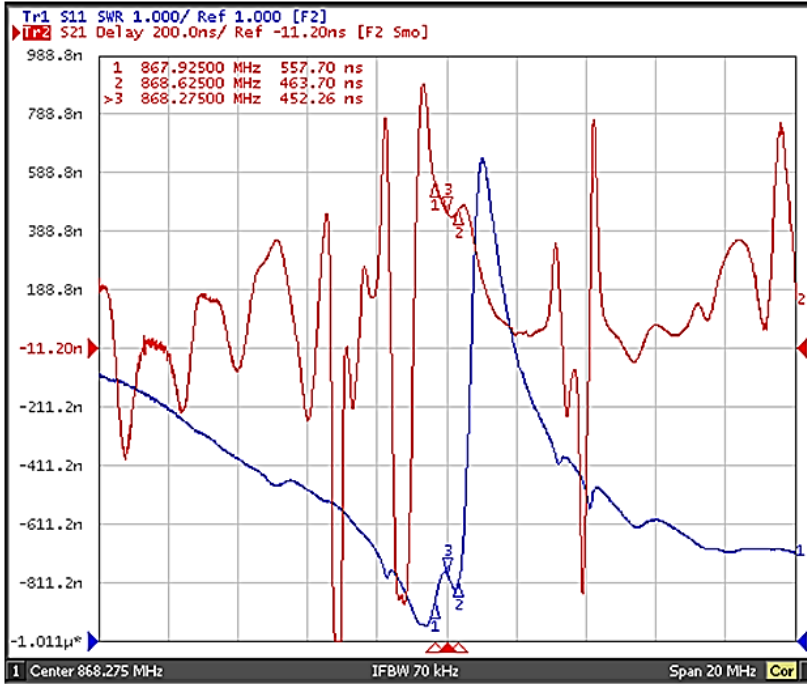
Frequency Response



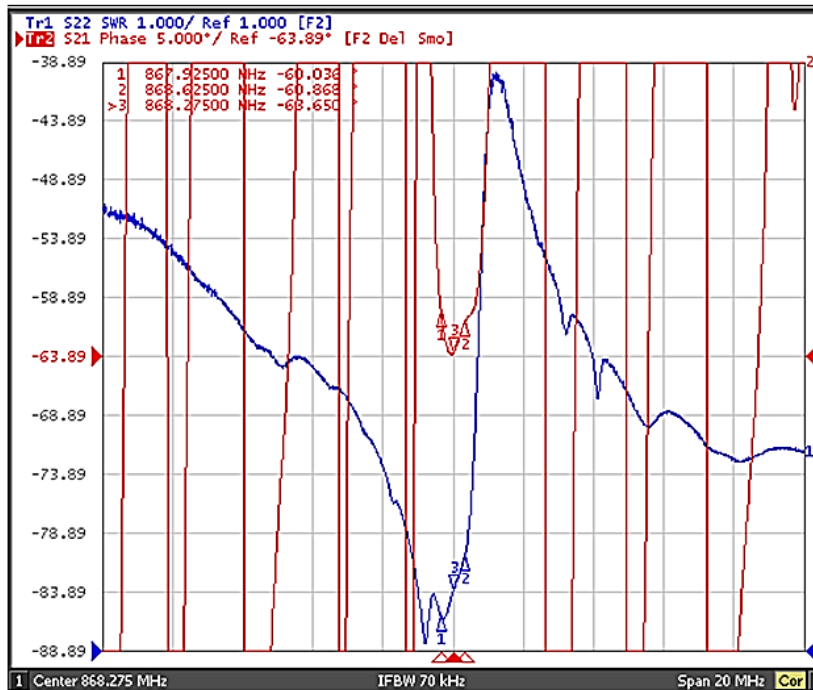
Frequency Response (wideband)

**SMD SAW FILTER 5050 TYPE SAF SERIES**

**FREQUENCY CHARACTERISTICS**



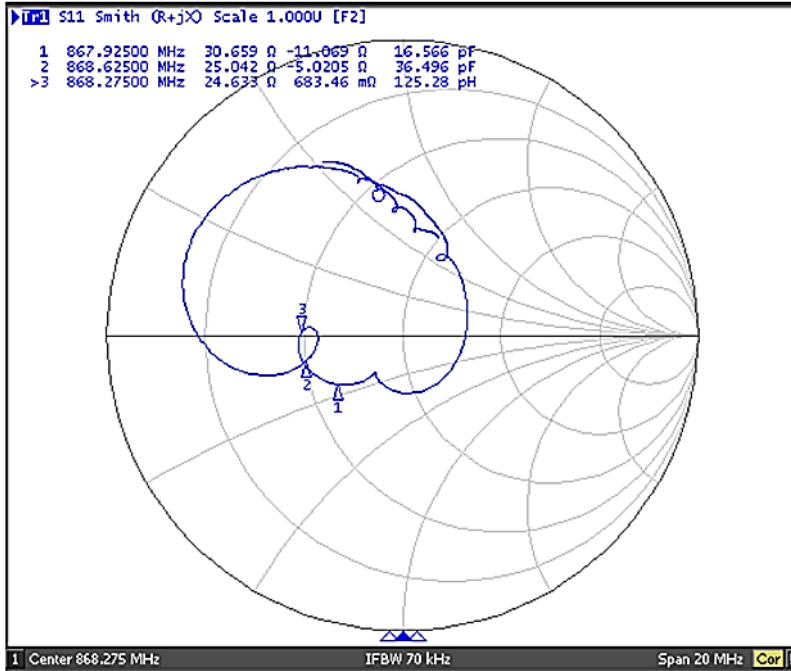
Delay Ripple & S11 VSWR



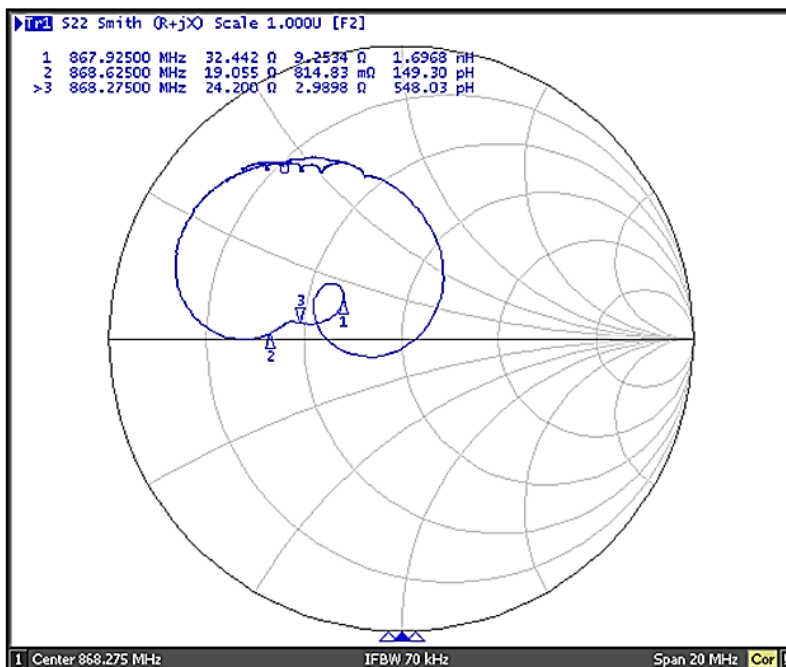
Phase Linearity & S22 VSWR

**SMD SAW FILTER 5050 TYPE SAF SERIES**

**FREQUENCY CHARACTERISTICS**



S11 Smith Chart



S22 Smith Chart

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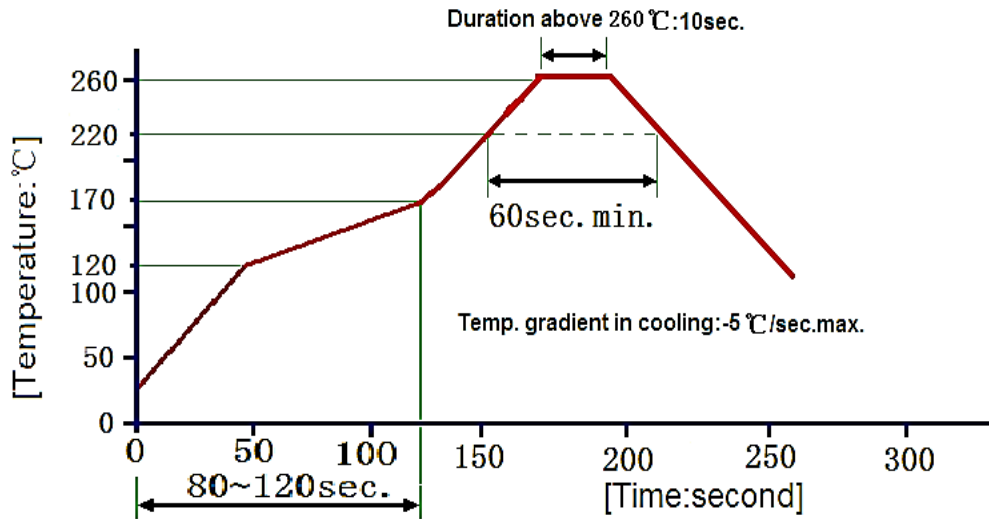
**RELIABILITY**

Test Items	Test Method And Conditions	Requirement
<b>Temperature Storage</b>	(1) Temperature: 85°C±2°C , Duration: 250h , Recovery time: 2h±0.5h (2) Temperature: -55°C±3°C , Duration: 250h ,Recovery time: 2h±0.5h	It shall remain electrical performance after tests
<b>Humidity Test</b>	Conditions: 60°C±2°C , 90~95% RH      Duration: 250h	
<b>Thermal Shock</b>	Heat cycle conditions: TA=-55°C±3°C, TB=85°C±2°C, t1=t2=30min, Switch time: ≤3min, Cycle time: 100 times, Recovery time: 2h±0.5h.	
<b>Vibration Fatigue</b>	Frequency of vibration: 10~55Hz      Amplitude:1.5mm Directions: X,Y and Z      Duration: 2h	
<b>Drop Test</b>	Cycle time: 10 times      Height: 1.0m	
<b>Solderability</b>	Temperature: 245°C±5°C      Duration: 3.0s--5.0s Depth: DIP--2/3 , SMD--1/5	
<b>Resistance to Soldering Heat</b>	(1)Thickness of PCB:1mm , Solder condition: 260°C±5°C , Duration: 10±1s (2)Temperature of Soldering Iron: 350°C±10°C , Duration: 3~4s , Recovery time : 2 ± 0.5h	



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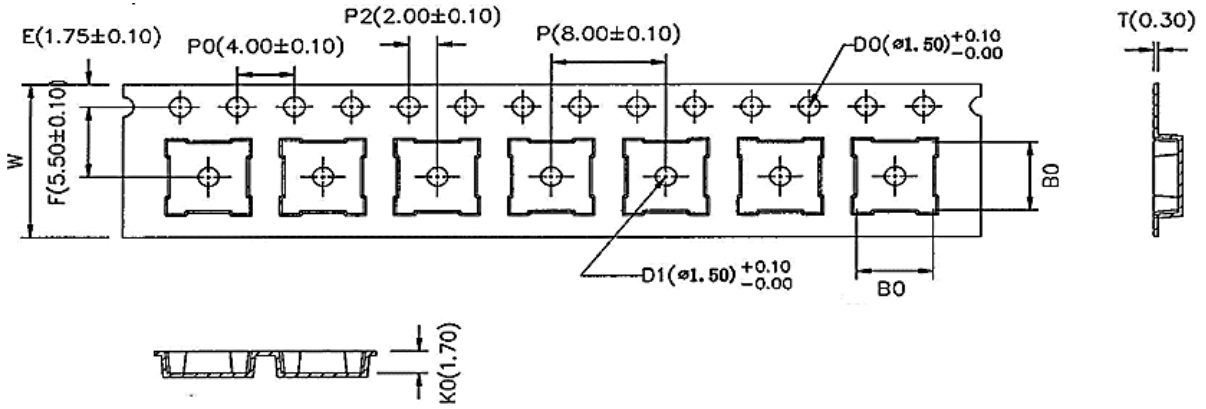
**SUGGESTED REFLOW PROFILE (For Reference Only)**



Reflow cycles: 3 cycles max.

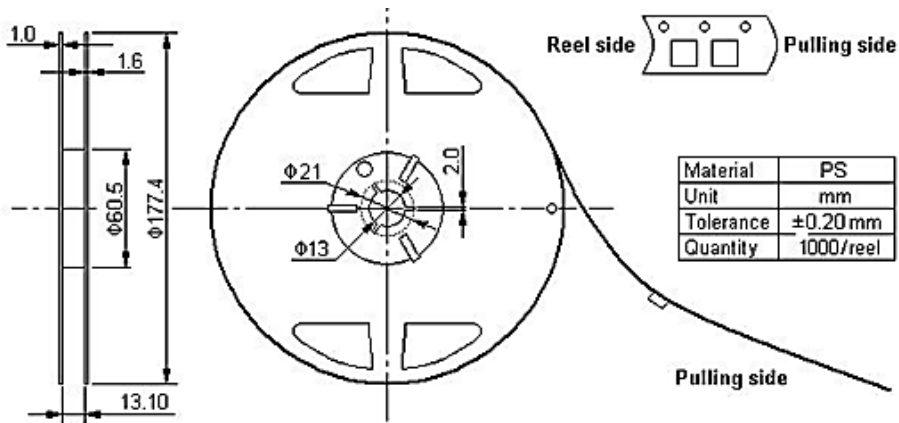
**SMD SAW FILTER 5050 TYPE SAF SERIES**

**TAPE DIMENSION (Unit: mm, 3000pcs/Reel)**



\* B0: 5.35 for QCC8C; 4.15 for DCC6/QCC8B; 3.35 for DCC6C/QCC8D

**REEL DIMENSION (Unit: mm)**



## SMD SAW FILTER 5050 TYPE SAF SERIES

### CAUTION

1. As a result of the particularity of inner structure of SAW products, it easy to be breakdown by electrostatic, so we should pay attention to ESD protect in the test.
2. Static voltage between signal load and ground may cause deterioration and destruction of the component. Please avoid static voltage.
3. Ultrasonic cleaning may cause deterioration and destruction of the component. Please avoid ultrasonic cleaning.
4. Only leads of component may be soldered. Please avoid soldering another part of component.
5. There is a close relationship between the device's performance and matching network. The specifications of this device are based on the test circuit shown above. L and C values may change depending on board layout. Values shown are intended as a guide only.
6. The temperature of manual welding should not exceed 300 °C.
7. The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
8. All equipment designs utilizing this product must be approved by the appropriate government agency prior to manufacture or sale.
9. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) perse, not for applications, processes and circuits implemented within components or assemblies.
10. For questions on technology, prices and delivery, please contact our sales offices or e-mail: [sales@NextGenComponent.com](mailto:sales@NextGenComponent.com).

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