



## SPECIFICATION FOR APPROVAL

CUSTOMER: \_\_\_\_\_  
CUSTOMER P/N: \_\_\_\_\_  
ATC P/N: DSGS5D28-SERIES  
QUANTITY: 0 PCS  
DATE: 2021.02.09

Please confirm your acceptance of this approval sheet by return fax.

APPROVED

REJECTED



DRAWN BY	CHECKED BY	APPROVED BY
林月霞 <i>Alice</i>	張德名 <i>Richard</i>	葉任銘 <i>J.M.Yeh</i>

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**SPECIFICATION**

ATC's DWG  
NUMBER

**DSGS5D28-SERIES**

PROD.  
NAME

SHIELDED SMD POWER INDUCTOR

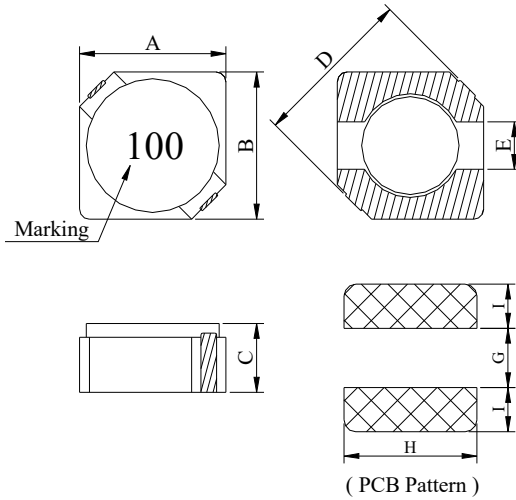
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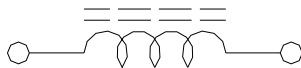
1

**1 Configuration and Dimensions :**



Item	Spec. (mm)
A	5.70 ± 0.30
B	5.70 ± 0.30
C	3.00 max.
D	8.20 max.
E	2.00 typ.
G	2.00 ref.
H	6.30 ref.
I	2.15 ref.

**2 Schematic Diagram :**



**3 Rating :**

Operating Temperature: -30°C ~ +100°C ( Including self-temperature rise )

Storage Temperature: Under 40°C, Humidity < 75%

**4 Material List :**

- a. Core: Ferrite DR core
- b. Core: Ferrite RI core
- c. Wire: Enamelled copper wire
- d. Adhesive: Epoxy resin
- e. Terminal: Cu / Ni / Au



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**5 Electrical Characteristics :**

DWG No.	Inductance (uH)	Test Freq. (Hz)	RDC (Ω)max.	IDC(A)		Tol.
				typ.	max.	
DSGS5D28-1R0□Z	1.000	10K	0.015	4.200	3.500	T
DSGS5D28-1R5□Z	1.500	10K	0.015	3.700	2.800	T
DSGS5D28-2R2□Z	2.200	10K	0.018	3.100	2.400	T
DSGS5D28-2R5□Z	2.500	10K	0.022	2.700	2.300	T
DSGS5D28-2R6□Z	2.600	10K	0.022	2.600	2.200	T
DSGS5D28-2R7□Z	2.700	10K	0.024	2.600	2.200	T
DSGS5D28-3R0□Z	3.000	10K	0.024	2.500	2.200	T
DSGS5D28-3R3□Z	3.300	10K	0.027	2.500	2.100	T
DSGS5D28-4R2□Z	4.200	10K	0.031	2.200	2.000	T
DSGS5D28-4R3□Z	4.300	10K	0.041	2.100	1.800	T
DSGS5D28-4R7□Z	4.700	10K	0.038	2.000	1.600	T
DSGS5D28-5R0□Z	5.000	10K	0.038	1.900	1.500	T
DSGS5D28-5R3□Z	5.300	10K	0.038	1.900	1.500	T
DSGS5D28-6R2□Z	6.200	10K	0.045	1.800	1.200	T
DSGS5D28-6R8□Z	6.800	10K	0.050	1.600	1.200	T
DSGS5D28-8R2□Z	8.200	10K	0.053	1.500	1.000	T
DSGS5D28-100□Z	10.00	10K	0.065	1.400	0.950	T
DSGS5D28-120□Z	12.00	10K	0.076	1.300	0.900	T
DSGS5D28-150□Z	15.00	10K	0.103	1.100	0.850	T
DSGS5D28-180□Z	18.00	10K	0.110	1.000	0.800	T
DSGS5D28-220□Z	22.00	10K	0.122	0.920	0.750	T
DSGS5D28-270□Z	27.00	10K	0.175	0.820	0.650	T
DSGS5D28-330□Z	33.00	10K	0.189	0.750	0.600	T
DSGS5D28-390□Z	39.00	10K	0.212	0.700	0.550	T
DSGS5D28-470□Z	47.00	10K	0.250	0.620	0.500	T
DSGS5D28-560□Z	56.00	10K	0.305	0.590	0.480	T
DSGS5D28-680□Z	68.00	10K	0.355	0.520	0.420	T
DSGS5D28-820□Z	82.00	10K	0.463	0.460	0.390	T
DSGS5D28-101□Z	100.0	10K	0.520	0.420	0.350	T
DSGS5D28-181□Z	180.0	10K	1.050	0.310	0.210	T

Note:

1. □ -Tolerance: T=±30%
2. IDC base on  $\Delta L / L0A=35\%$



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**5 Electrical Characteristics :**

DWG No.	Inductance (uH)	Test Freq. (Hz)	RDC ( $\Omega$ )max.	IDC(A)		Tol.
				typ.	max.	
DSGS5D28-221□Z	220.0	10K	1.200	0.300	0.200	T
DSGS5D28-331□Z	330.0	10K	1.700	0.240	0.150	T
DSGS5D28-391□Z	390.0	10K	1.800	0.220	0.130	T
DSGS5D28-471□Z	470.0	10K	2.500	0.210	0.110	T
DSGS5D28-561□Z	560.0	10K	3.200	0.170	0.100	T

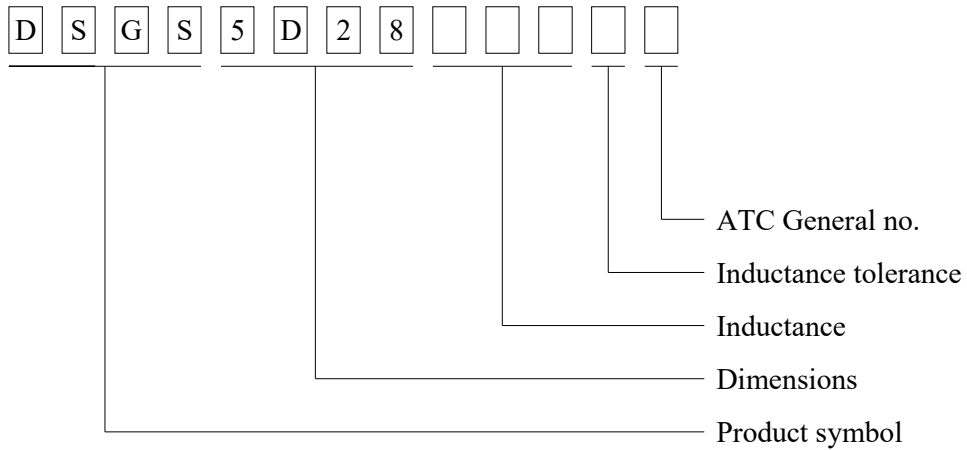
Note:

1. □ -Tolerance: T=±30%
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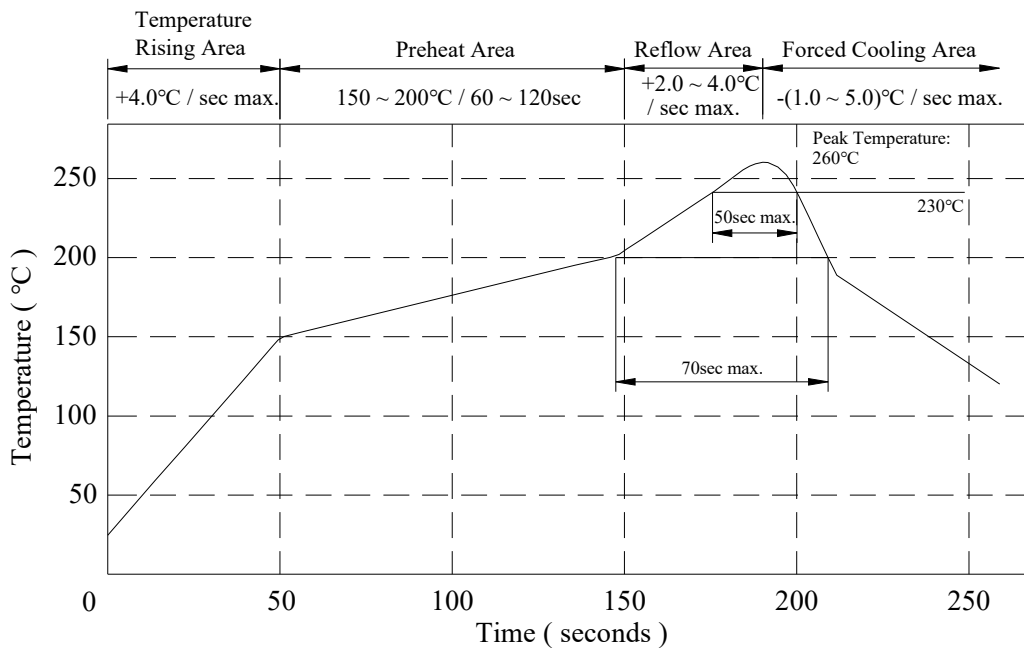
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**6 DWG Expression :**



**7 Classification Reflow Profile :**

Peak Temp: 260°C max.  
 Max time above 230°C : 50sec max.  
 Max time above 200°C : 70sec max.





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**8 Reliability Test :**

1-1.Mechanical Performance

No	Item	Specification	Test Method
1	Vibration	Appearance: No damage Inductance: within±10% of initial value	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
2	Resistance to Soldering Heat	Appearance: No damage	Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5 Solder Temperature: 260±5°C Immersion Time: 10±1sec
3	Solder ability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Ag3.0/Cu0.5 Solder Temperature: 245±5°C Immersion Time: 4±1sec
4	Resistance to solvent	There must be no change in appearance or obliteration of marking.	Inductors must withstand 6 minutes of alcohol or water.

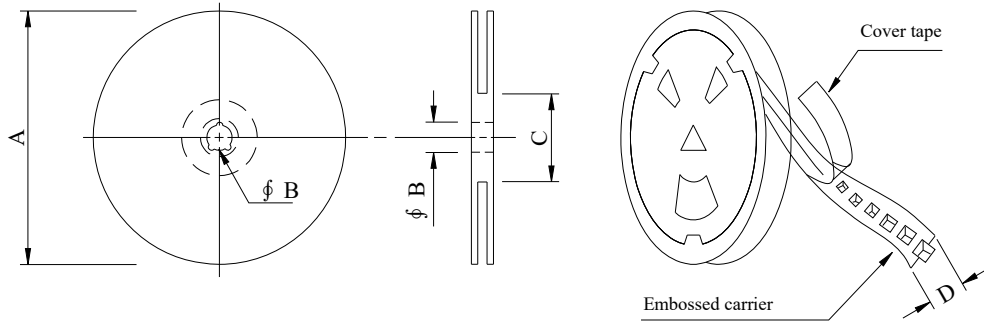
1-2.Environmental Performance

No	Item	Specification	Test Method															
1	Temperature Shock	Appearance: No damage Inductance: within±10% of initial value	10 cycles (Air to Air) 1 cycles shall consist of: 30 minutes exposure to -55 °C 30 minutes exposure to 125 °C 15 seconds maximum transition between temperatures															
2	Temperature Cycle		One cycle: <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25±3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25±2</td> <td>3</td> </tr> <tr> <td>3</td> <td>85±3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25±2</td> <td>3</td> </tr> </tbody> </table>	Step	Temperature (°C)	Time (min)	1	-25±3	30	2	25±2	3	3	85±3	30	4	25±2	3
Step	Temperature (°C)	Time (min)																
1	-25±3	30																
2	25±2	3																
3	85±3	30																
4	25±2	3																
3	Humidity Resistance		Total: 100cycles Measured after exposure in the room condition for 24hrs Temperature: 40±2°C Relative Humidity: 90 ~ 95% Time: 1000hrs Measured after exposure in the room condition for 24hrs															
4	Heat Life		Temperature: 85±3°C Relative Humidity: 20% Applied Current: Rated Current Time: 1000hrs Measured after exposure in the room condition for 24hrs															
5	Cold Resistance		Temperature: -25±3°C Relative Humidity: 0% Time: 1000hrs Measured after exposure in the room condition for 24hrs															

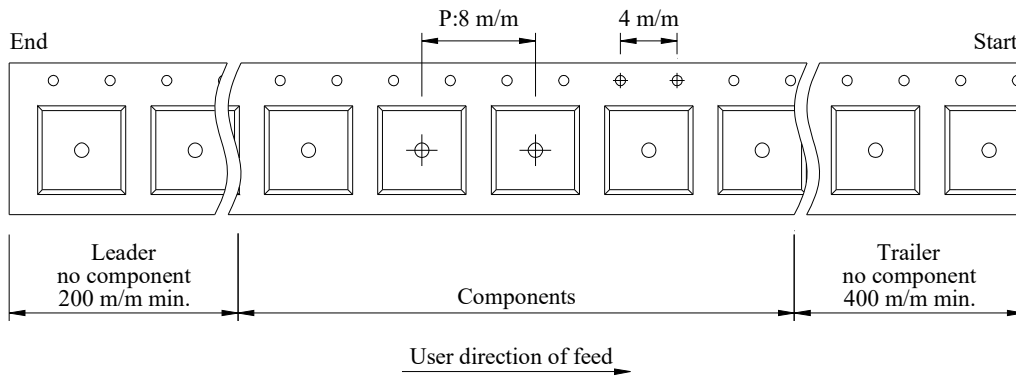


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※Carrier tape width : D



Reel type	A	B	C	D	Reel Q'ty
13-12	330mm	13mm	100mm	12mm	2000pcs