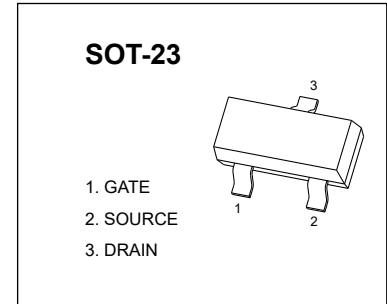


**SOT-23 Plastic-Encapsulate MOSFETS****CJ2301A** P-Channel MOSFET

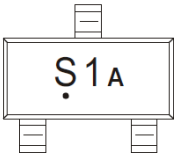
$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-20V	112mΩ@-4.5V	-2.3A
	142mΩ@-2.5V	

**FEATURE**

- TrenchFET Power MOSFET

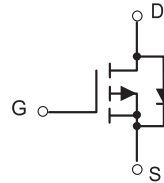
APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

MARKING

S1A=Device code

Solid dot = Green molding compound device.

Equivalent Circuit**Maximum ratings (T_a=25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	±8	
Continuous Drain Current	$I_D^{①}$	-2.3	A
Pulsed Drain Current	$I_{DM}^{①②}$	-10	
Maximum Power Dissipation	$P_D^{①}$	4	W
Thermal Resistance from Junction to Case	$R_{θJC}^{①}$	30	°C/W
Thermal Resistance from Junction to Ambient(t ≤5s)	$R_{θJA}^{⑤}$	312.5	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55 ~+150	°C

MOSFET ELECTRICAL CHARACTERISTICS

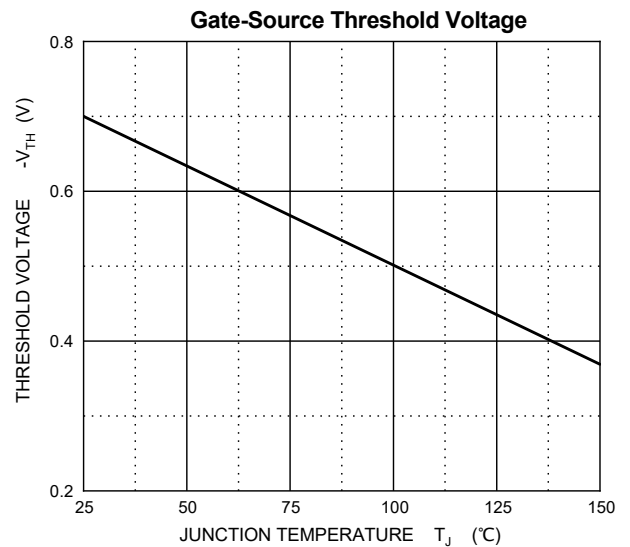
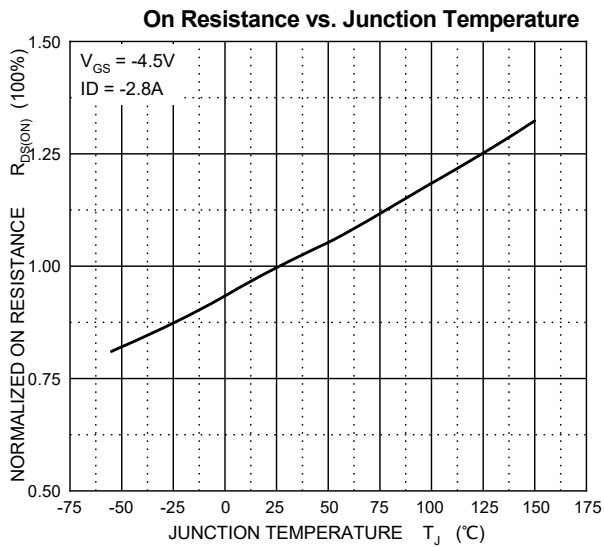
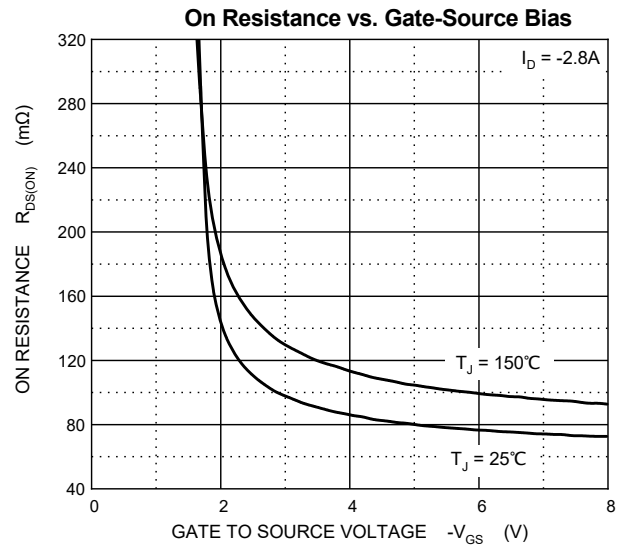
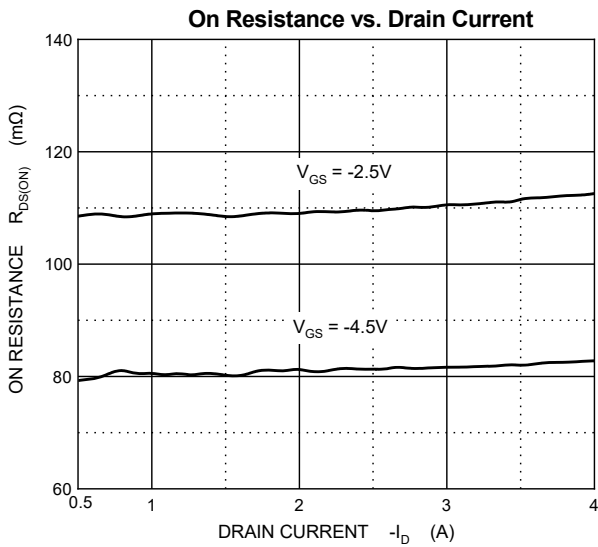
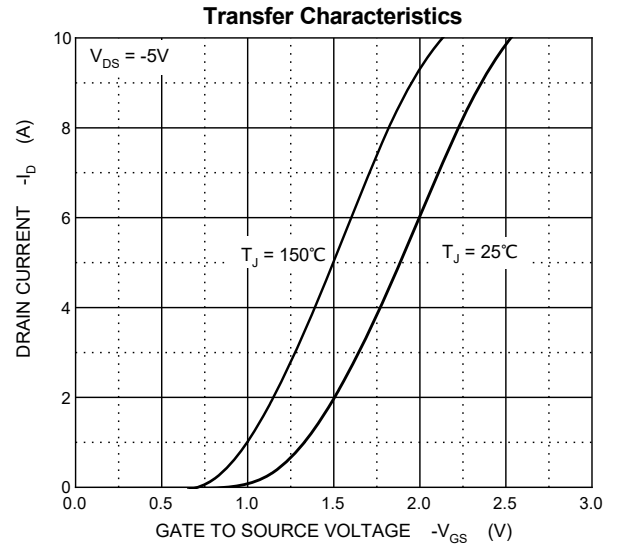
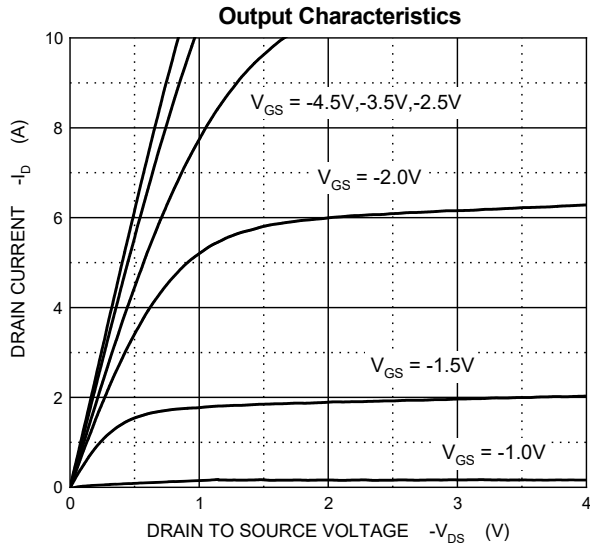
$T_J=25^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -20V, V_{GS} = 0V$			-1.0	μA
Gate-body leakage current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 8V$			± 100	nA
On characteristics ^③						
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.4	-0.7	-1.0	V
Static drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -2.8A$		82	112	m Ω
		$V_{GS} = -2.5V, I_D = -2A$		109	142	
Dynamic characteristics ^④						
Input capacitance	C_{iss}	$V_{DS} = -10V, V_{GS} = 0V, f = 1MHz$		427		pF
Output capacitance	C_{oss}			52		
Reverse transfer capacitance	C_{rss}			44		
Gate resistance	R_g	$f = 1MHz$		37		Ω
Switching characteristics ^④						
Total gate charge	Q_g	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -3A$		5.7		nC
Gate-source charge	Q_{gs}			1.0		
Gate-drain charge	Q_{gd}			1.7		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -10V, V_{GS} = -4.5V,$ $R_G = 1\Omega, R_L = 10\Omega$		9		ns
Turn-on rise time	t_r			5		
Turn-off delay time	$t_{d(off)}$			35		
Turn-off fall time	t_f			20		
Drain-Source Diode Characteristics						
Drain-source diode forward voltage	V_{SD} ^③	$V_{GS} = 0V, I_S = -0.7A$			-1.3	V
Maximum continuous drain-source diode forward current	I_S ^①				-2.3	A
Maximum pulsed drain-source diode forward current	I_{SM} ^{①②}				-10	A

Notes :

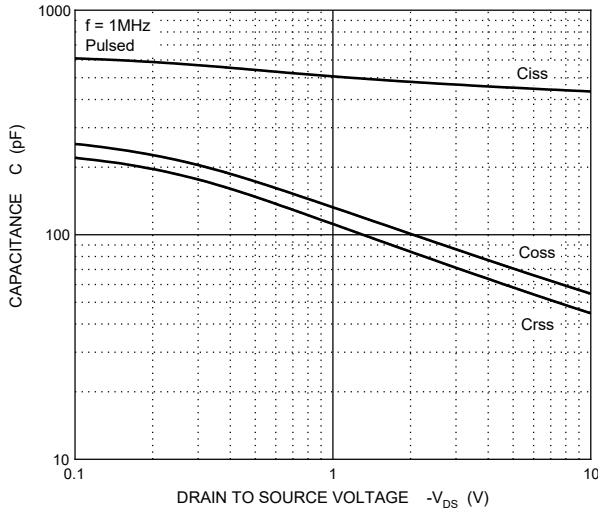
- $T_C=25^{\circ}\text{C}$ Limited only by maximum temperature allowed.
- $P_W \leq 10\mu s$, Duty cycle $\leq 1\%$.
- Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- Guaranteed by design, not subject to production.
- The value of $R_{\theta JA}$ is measured with the device mounted on 1 in² FR-4 board in a still air environment with $T_a=25^{\circ}\text{C}$.

Typical Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise specified)

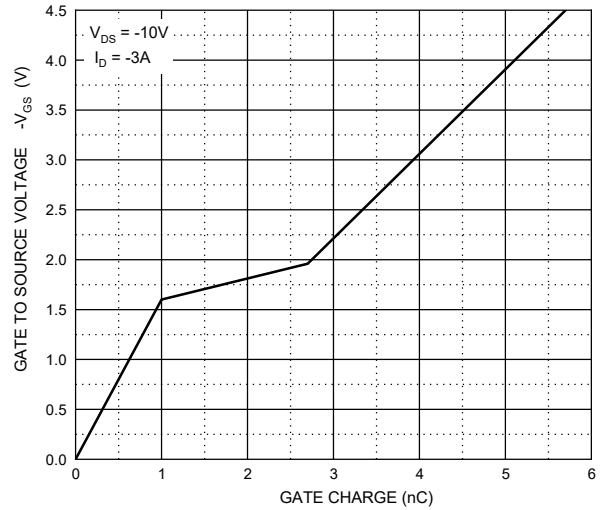


Typical Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise specified)

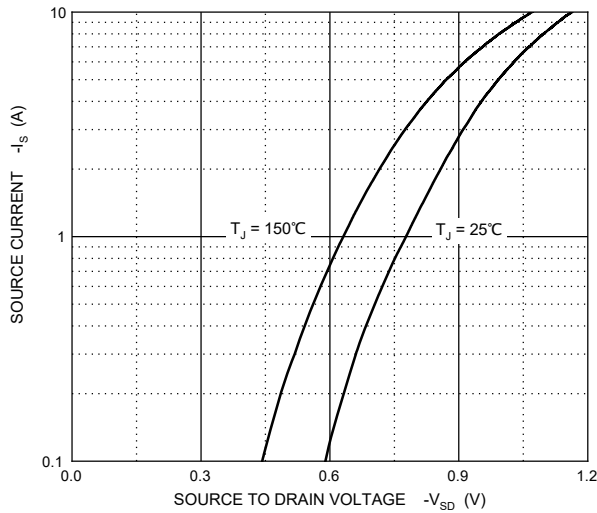
Typical Capacitances



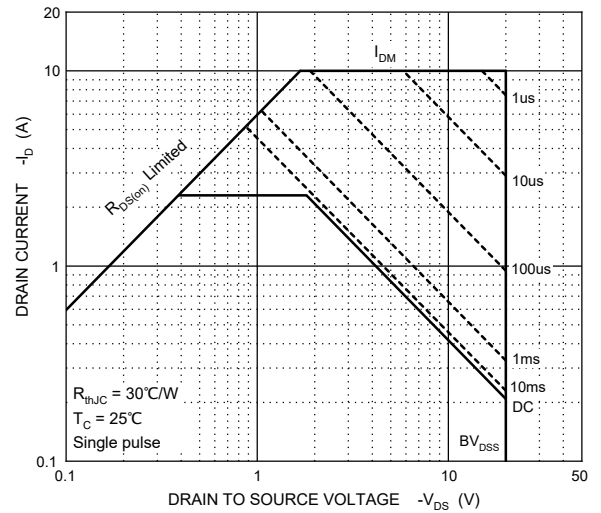
Gate Charge



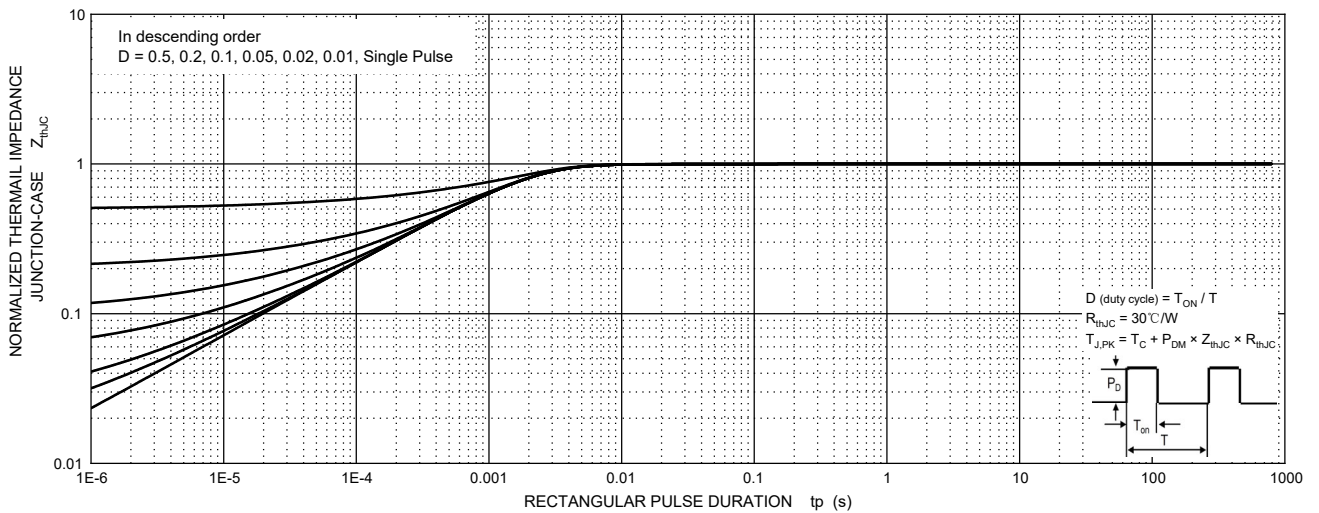
Source-Drain Diode Forward Characteristics



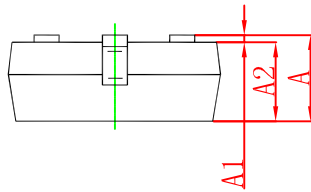
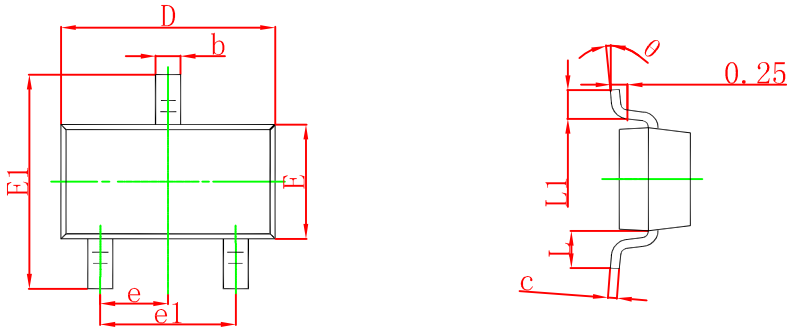
Maximum Safe Operating Area



Transient Thermal Impedance, Junction-Case

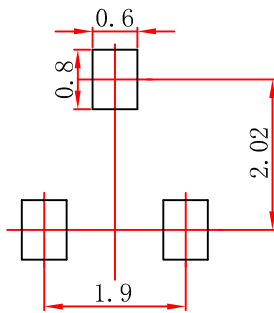


SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:

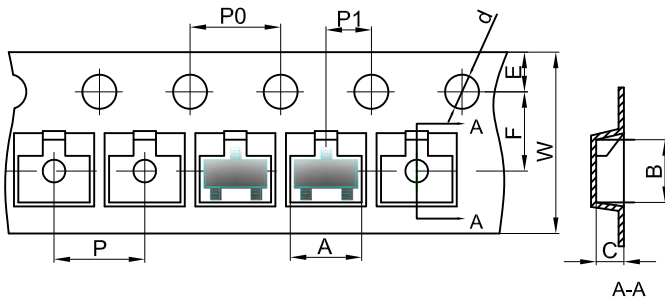
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape



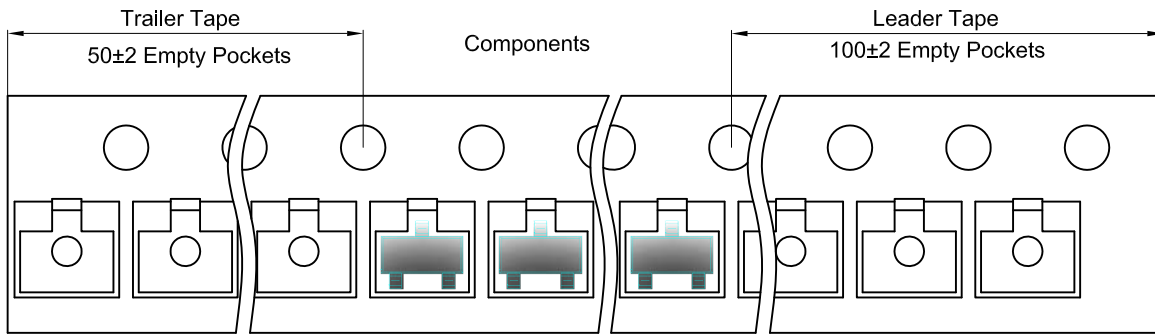
Packaging Description:

SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

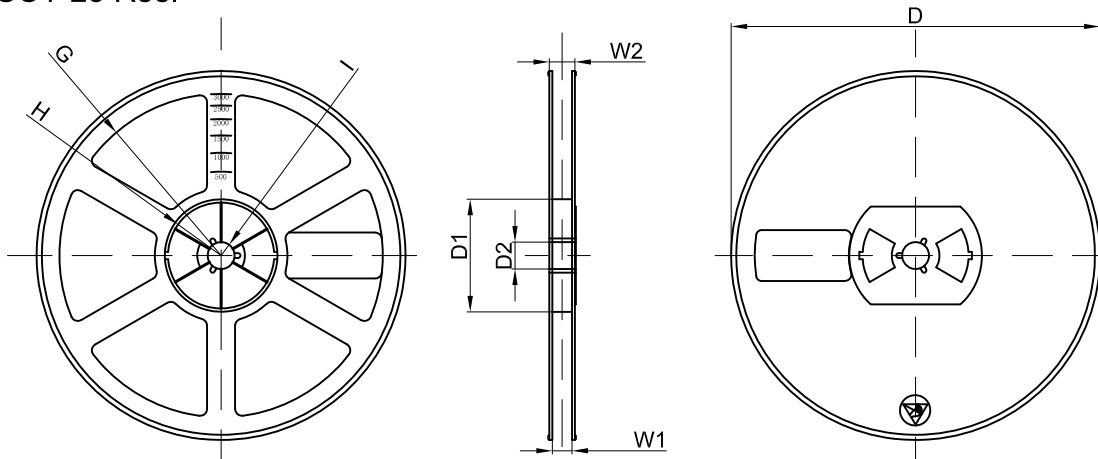
Dimensions are in millimeter

Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer



SOT-23 Reel



Dimensions are in millimeter

Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	