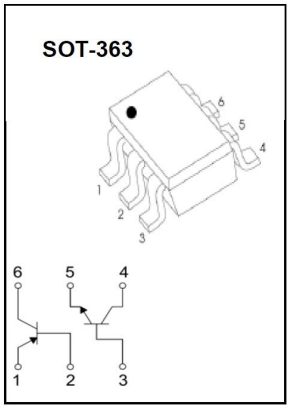
JSCJ

JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

AD-UMZ2N Plastic-Encapsulated Transistor

AD-UMZ2N Dual transistor (PNP+NPN)



FEATURES

- AD-2SA1037AK and AD-2SC2412K are housed independently in a package
- Transistor elements are independent, eliminating interference
- Mounting cost and area can be cut in half
- AEC-Q101 qualified

MARKING: $\bar{Z}2$

TR1 PNP MAXIMUM RATINGS TRANSISTOR (T_j = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector- Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-50	
Emitter-Base Voltage	V_{EBO}	-6	
Collector Current -Continuous	I_C	-150	mA
Maximum power dissipation	P_C	150	mW
Operating junction and storage temperature range	T_j, T_{stg}	-55 ~ 150	°C

TR2 NPN MAXIMUM RATINGS TRANSISTOR (T_j = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector- Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	
Emitter-Base Voltage	V_{EBO}	7	
Collector Current -Continuous	I_C	150	mA
Maximum power dissipation	P_C	150	mW
Operating junction and storage temperature range	T_j, T_{stg}	-55 ~ 150	°C

TR1 PNP ELECTRICAL CHARACTERISTICS (T_j = 25°C unless otherwise specified)

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C = -50μA, I_E = 0	-60	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = -1mA, I_B = 0	-50	-	-	
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E = -50μA, I_C = 0	-6	-	-	
Collector cut-off current	I_{CBO}	V_{CB} = -60V, I_E = 0	-	-	-0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = -6V, I_C = 0	-	-	-0.1	
DC current gain	h_{FE}	V_{CE} = -6V, I_C = -1mA	120	-	560	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = -50mA, I_B = -5mA	-	-	-0.5	V
Transition frequency	f_T	V_{CE} = -12V, I_E = 2mA, f = 100MHz	-	140	-	MHz
Collector output capacitance Cob	C_{ob}	V_{CB} = -12V,I_E = 0,f = 1MHz	-	-	5	pF

TR2 NPN ELECTRICAL CHARACTERISTICS (T_j = 25°C unless otherwise specified)

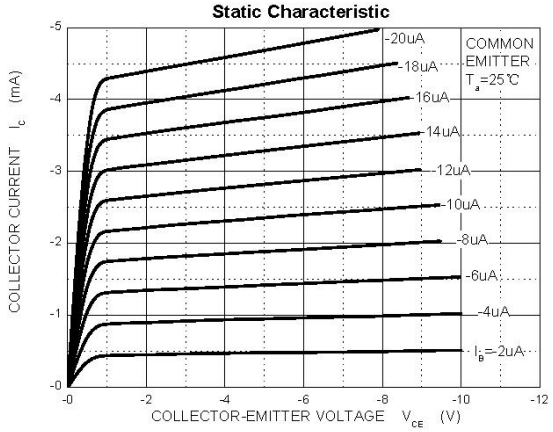
Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C = 50μA, I_E = 0	60	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0	50	-	-	
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E = 50μA, I_C = 0	7	-	-	
Collector cut-off current	I_{CBO}	V_{CB} = 60V, I_E = 0	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 7V, I_C = 0	-	-	0.1	
DC current gain	h_{FE}	V_{CE} = 6V, I_C = 1 mA	120	-	560	-
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 50mA, I_B = 5mA	-	-	0.4	V

Transition frequency	f_T	V_{CE} = 12V, I_E = -2mA, f = 100MHz	-	180	-	MHz
Collector output capacitance	C_{ob}	V_{CB} = 12V,I_E = 0,f = 1MHz	-	-	3.5	pF

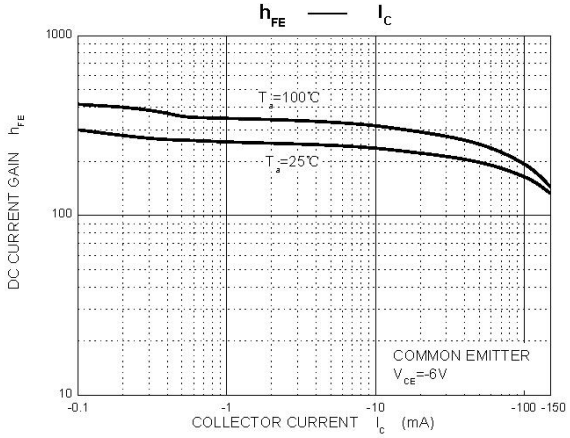
TYPICAL CHARACTERISTICS

TR1(PNP)

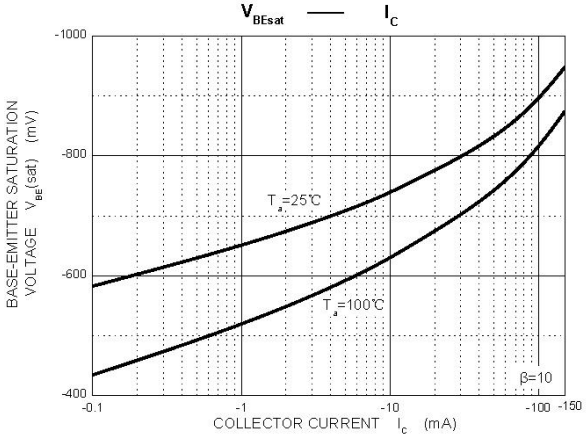
Static Characteristic



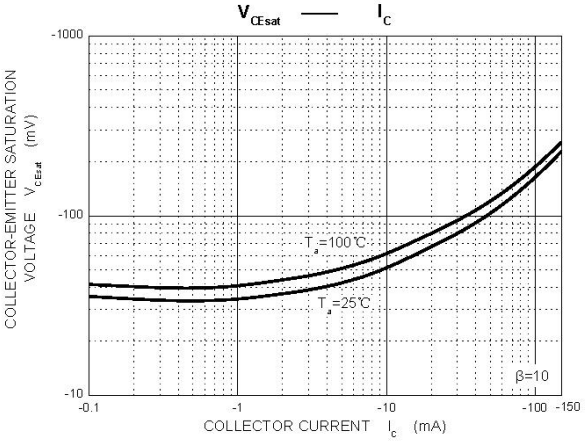
h_{FE} — I_C



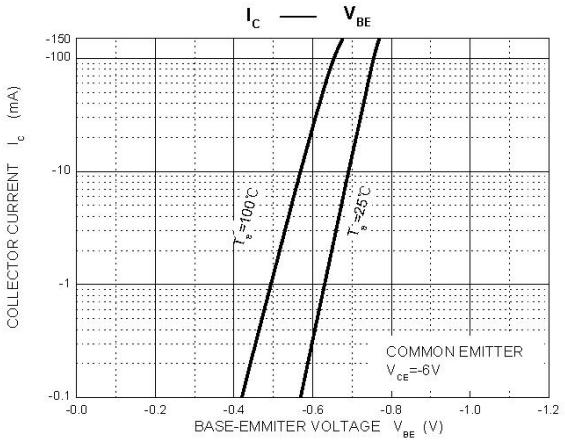
V_{BEsat} — I_C



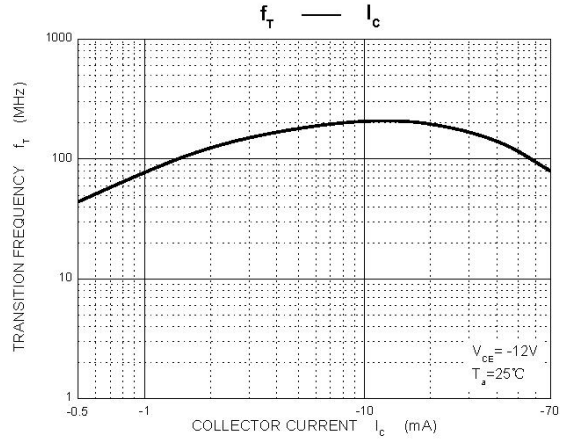
V_{CEsat} — I_C



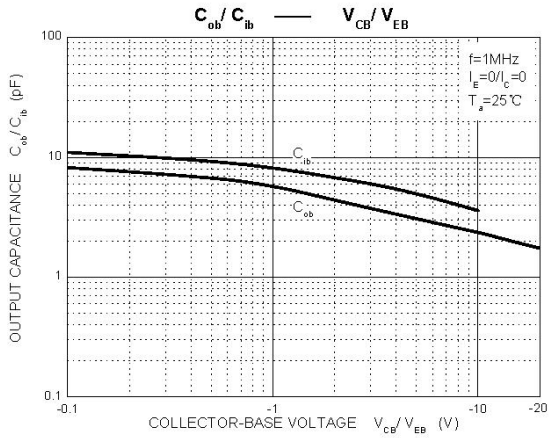
I_C — V_{BE}



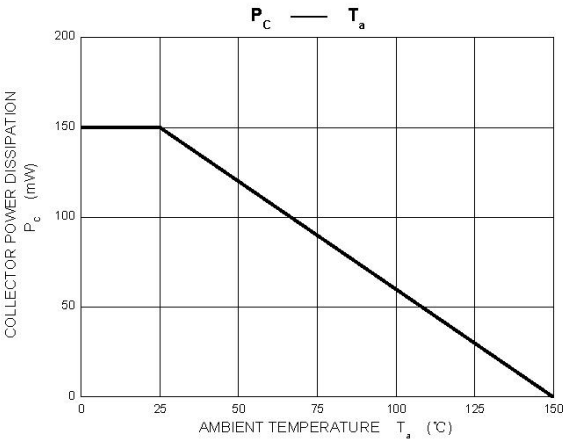
f_T — I_C



C_{ob} / C_{ib} — V_{CB} / V_{EB}



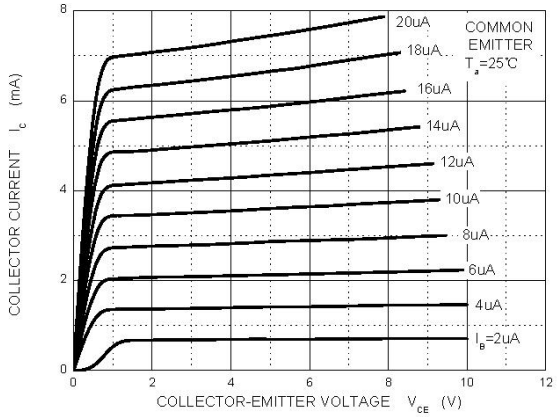
P_C — T_a



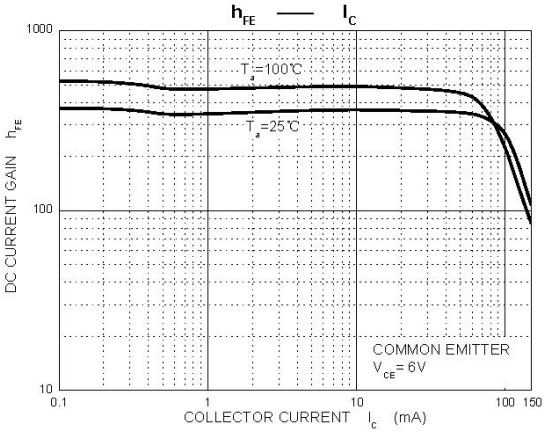
TYPICAL CHARACTERISTICS

TR2(NPN)

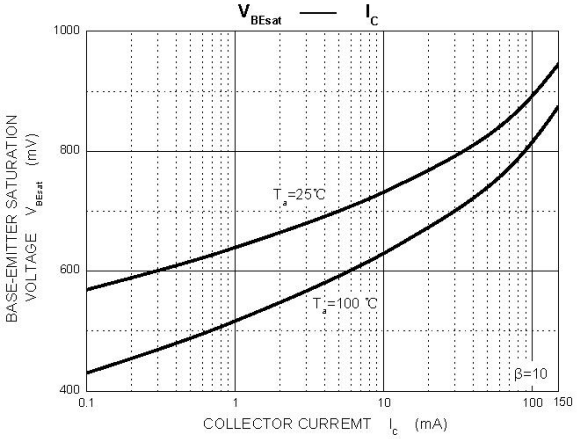
Static Characteristic



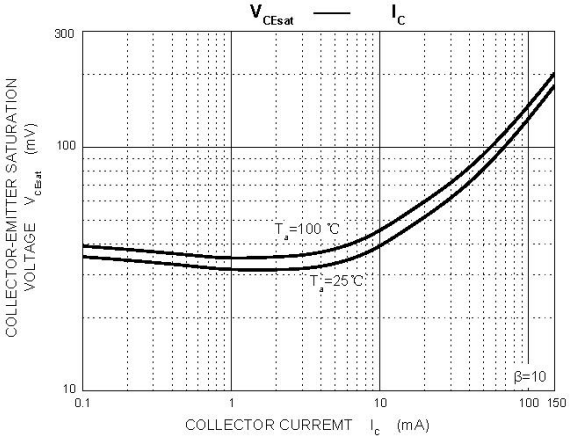
h_{FE} —— I_C



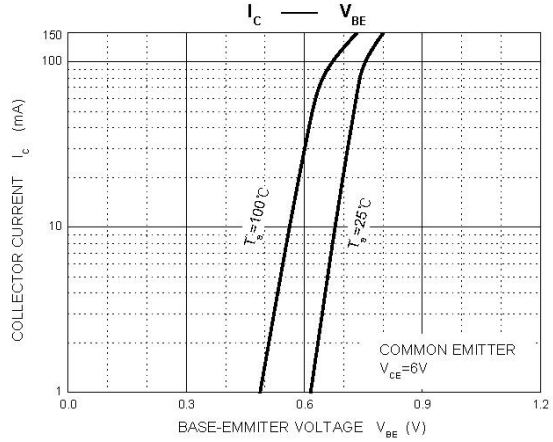
V_{BEsat} —— I_C



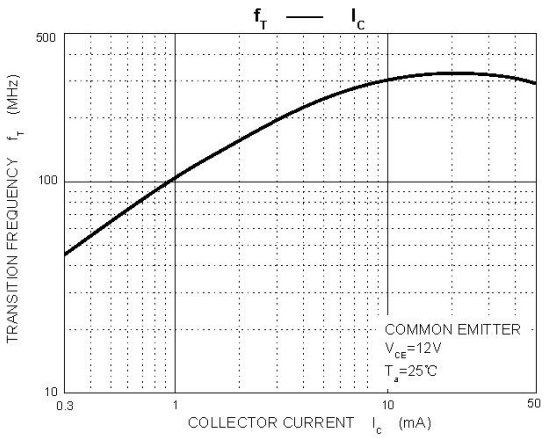
V_{CEsat} —— I_C



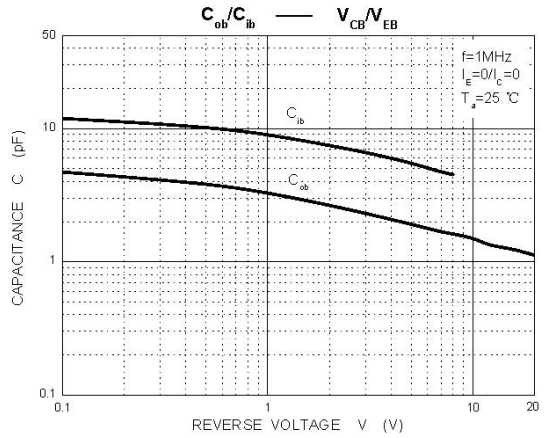
I_C —— V_{BE}



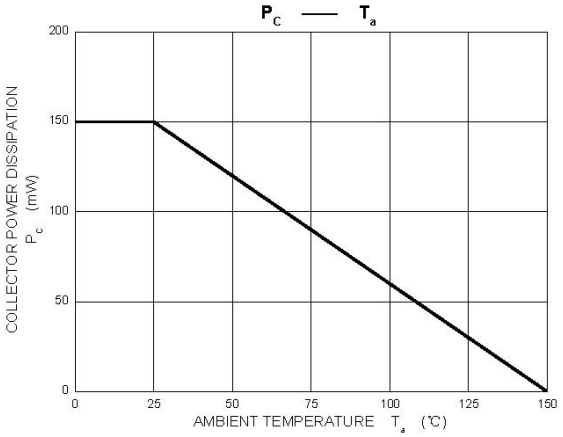
f_T —— I_C



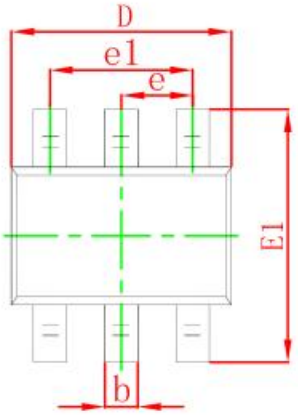
C_{ob}/C_{ib} —— V_{CB}/V_{EB}

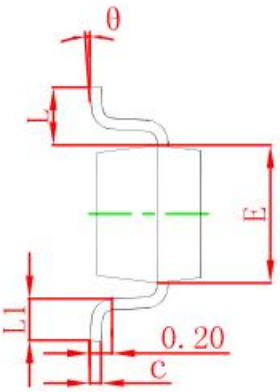


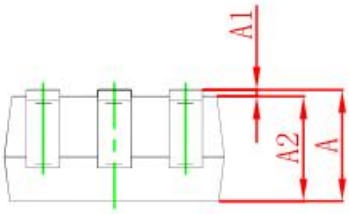
P_C —— T_a



SOT-363 PACKAGE OUTLINE DIMENSIONS

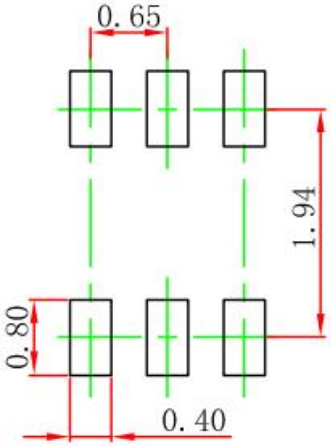






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-363 SUGGESTED PAD LAYOUT

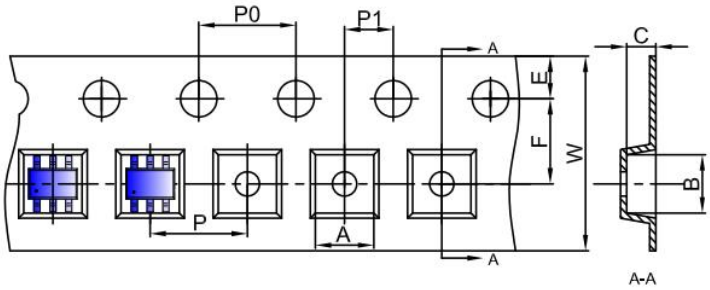


Note:

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

SOT-363 TAPE AND REEL

SOT-363 Embossed Carrier Tape

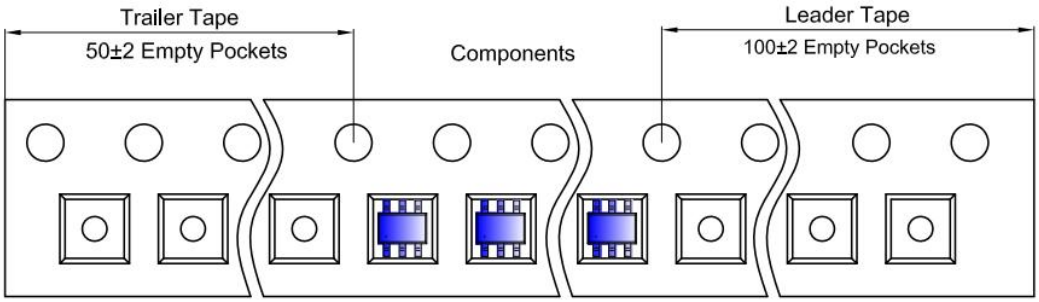


Packaging Description:

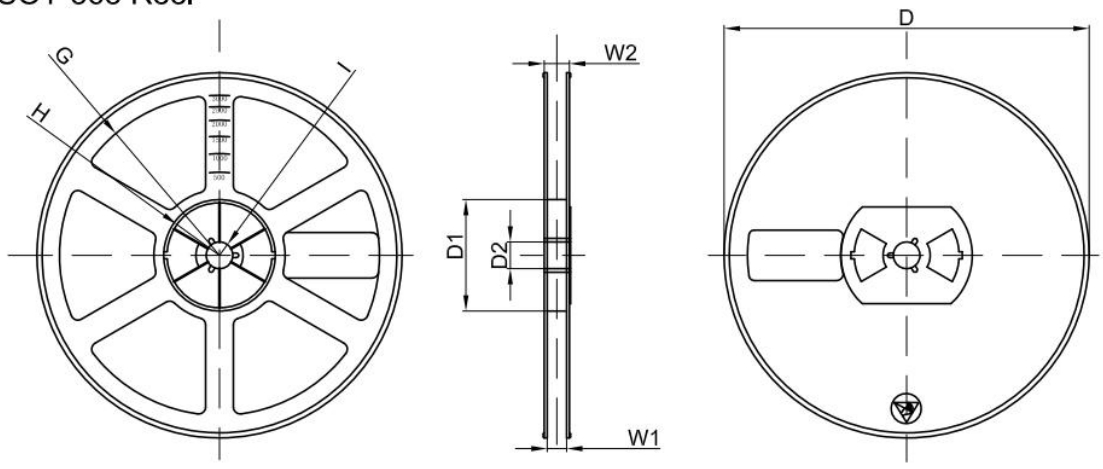
SOT-363 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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-363	2.25	2.55	1.20	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-363 Tape Leader and Trailer



SOT-363 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	

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