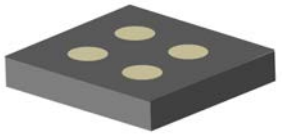
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

CSP Enhancement Mode Power MOSFET

CJ4612SP Dual N-Channel MOSFET

V_{SSS}	$R_{SS(on)}$TYP	I_S
22V	30 mΩ@4.5V	6A
	31 mΩ@4.0V	
	32 mΩ@3.8V	
	35 mΩ@3.1V	
	42 mΩ@2.5V	

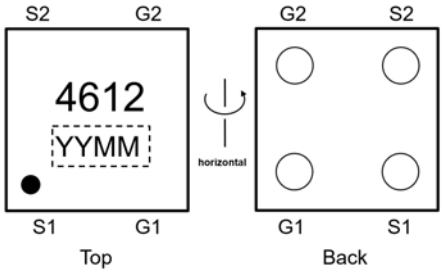
CSPB1313-4



DESCRIPTION

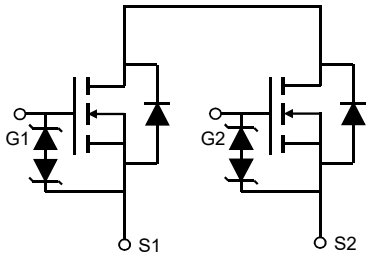
The CJ4612SP uses advanced trench technology to provide excellent $R_{SS(ON)}$, low gate charge and operation with gate voltages as low as 2.5V while retaining a 12V $V_{GS(MAX)}$ rating. It is ESD protected. This device is suitable for use as a unidirectional or bi-directional load switch, facilitated by its common-drain configuration.

Marking and pin assignment



Marking:
1. 4612: Product Code
2. YYMM: Date Code
3. Solid dot: Pin 1

Equivalent Circuit



Absolute Maximum Ratings (T_A =25℃unless otherwise noted)

Symbol	Parameter	Limit	Unit
V_{SSS}	Source to Source Voltage	22	V
V_{GSS}	Gate-Source Voltage	±12	V
I_S	Source Current(DC) [1]	6	A
I_{SP}	Source Current (Pulse) [1,2]	60	A
P_T	Total Dissipation [1]	1.4	W
Tch	Channel Temperature	150	℃
T_{STG}	Storage Temperature	-55 To 150	℃

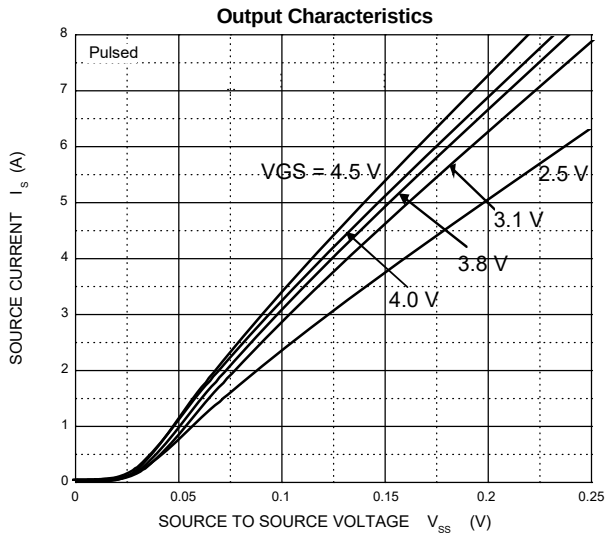
Note 1 Mounted on FR4 board (25.4 mm × 25.4 mm × t1.0 mm) using the minimum recommended pad size (36μm Copper).
2 t = 10 μs, Duty Cycle ≤ 1 %

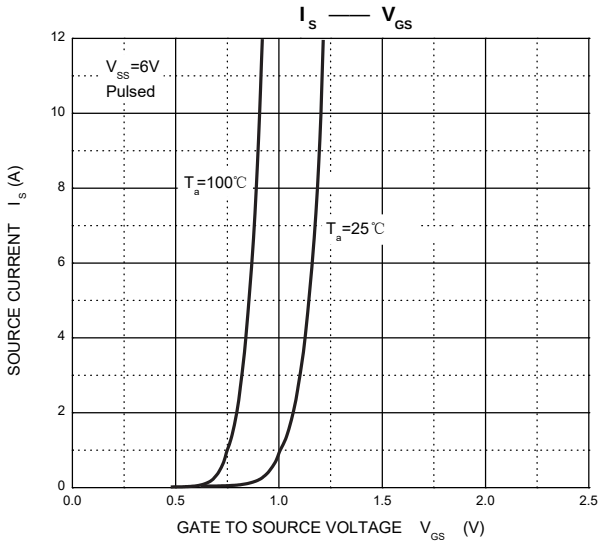
MOSFET ELECTRICAL CHARACTERISTICS

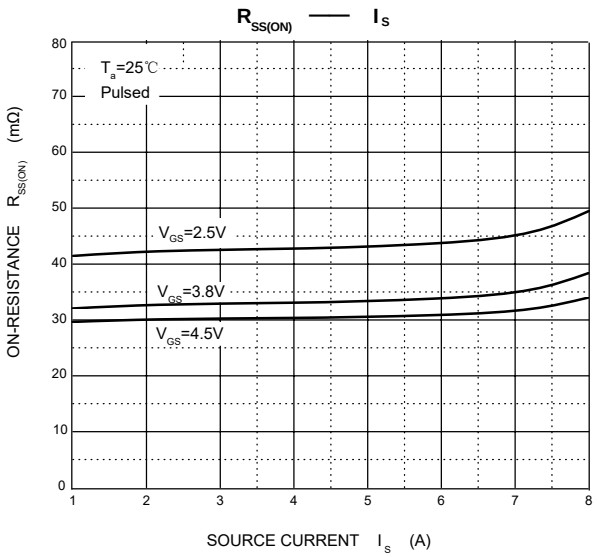
Electrical Characteristics (T_A=25℃unless otherwise noted)

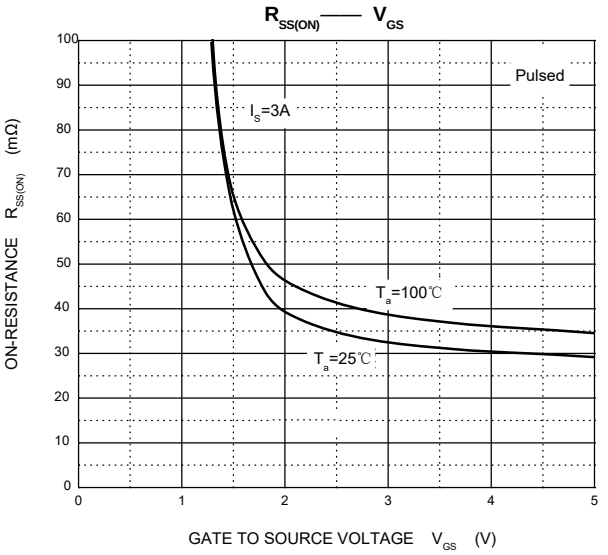
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Parameters						
BV_{SSS}	Source to Source Breakdown Voltage	I_S=250μA, V_{GS}=0V	22			V
I_{SSS}	Zero- Gate Voltage Source Current	V_{SS}=20V, V_{GS}=0V	-	-	1	μA
I_{GSS}	Gate to Source Leakage Current	V_{SS}=0V, V_{GS}= ±8V	-	-	±10	μA
V_{TH}	Cutoff Voltage	V_{SS}=10V， I_S=250μA	0.5	0.8	1.3	V
$\|yg_{FS}\|$	Forward Transfer Admittance	V_{SS}=10V,I_S=3A	1	7	-	S
$R_{SS(on)}$	Static Source to Source On-Resistance	V_{GS}=4.5V,I_S=3A	21	30	36	mΩ
		V_{GS}=4.0V,I_S=3A	22	31	38	mΩ
		V_{GS}=3.8V,I_S=3A	23	32	40	mΩ
		V_{GS}=3.1V,I_S=3A	26	35	45	mΩ
		V_{GS}=2.5V,I_S=3A	30	42	60	mΩ
$t_{d(on)}$	Turn-on Delay Time	V_{SS}=10V,I_S=3A V_{GS}=4.5V	-	0.7	-	μS
t_r	Turn-on Rise Time		-	3.8	-	μS
$t_{d(off)}$	Turn-Off Delay Time		-	10	-	μS
t_f	Turn-Off Fall Time		-	10	-	μS
C_{iss}	Input Capacitance	V_{SS}=10V,V_{GS}=0V, f=10kHz	-	258	-	pF
C_{oss}	Output capacitance		-	90	-	pF
C_{rss}	Reverse transfer capacitance		-	24	-	pF
Q_g	Total Gate Charge	V_{SS}=10V,I_S=6A,V_{GS}=4.5V	-	7.2	-	nC
$V_{F(S-S)}$	Diode Forward Voltage	V_{GS}=0V,I_S=1A	-	-	1.2	V

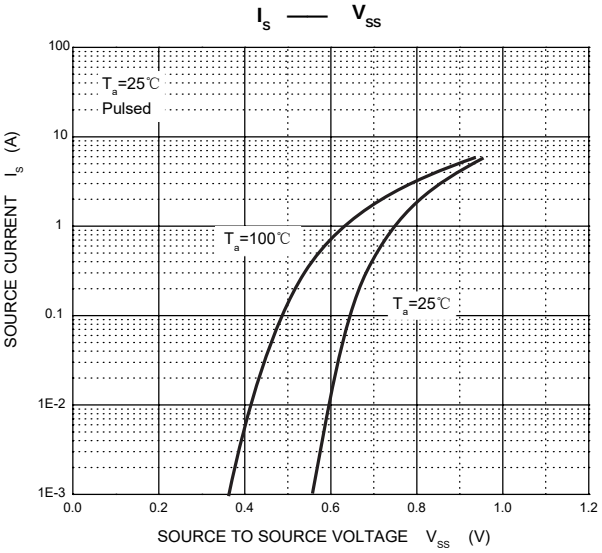
Typical Characteristics

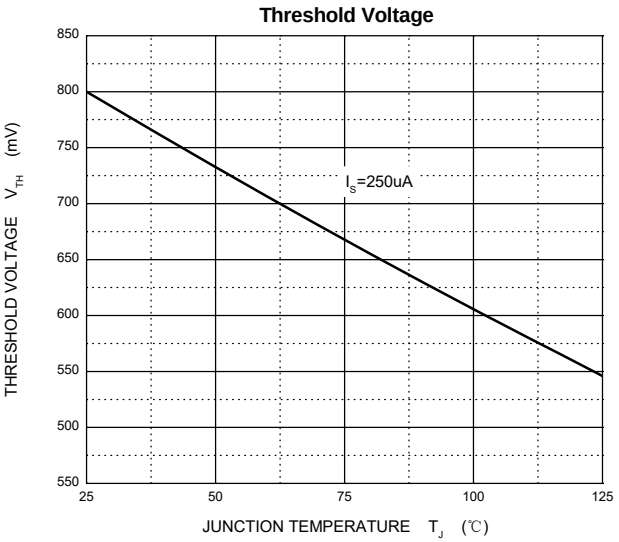












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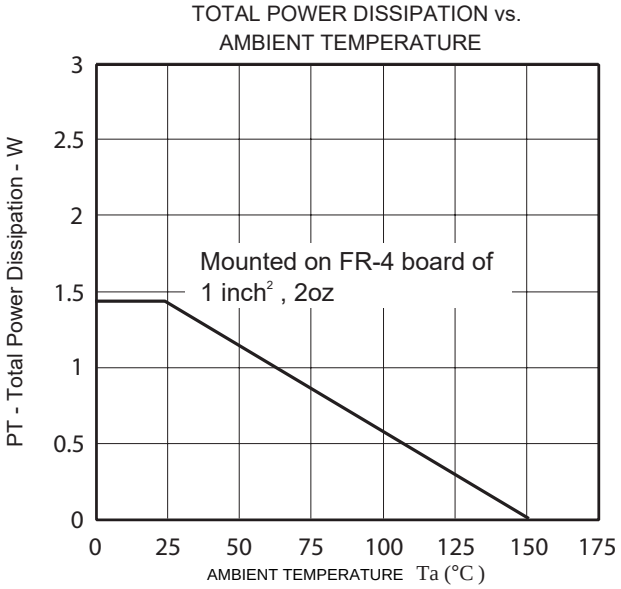
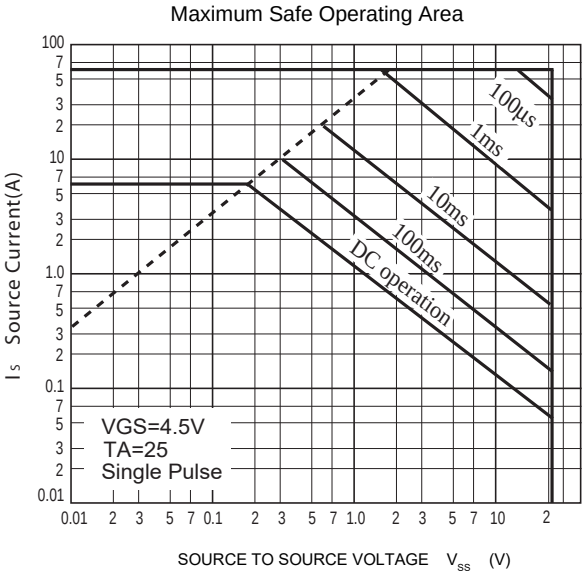
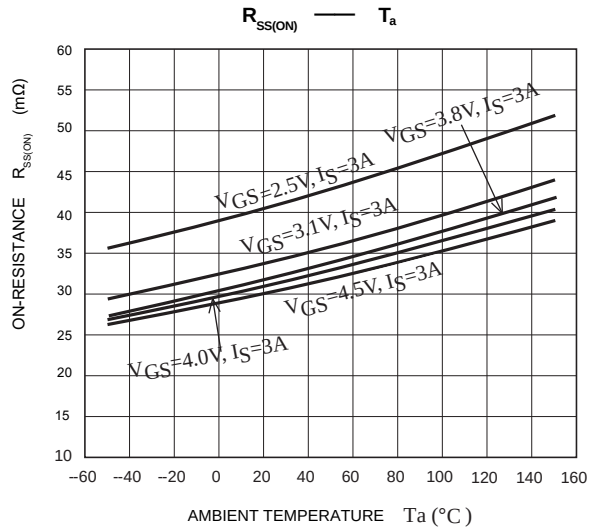
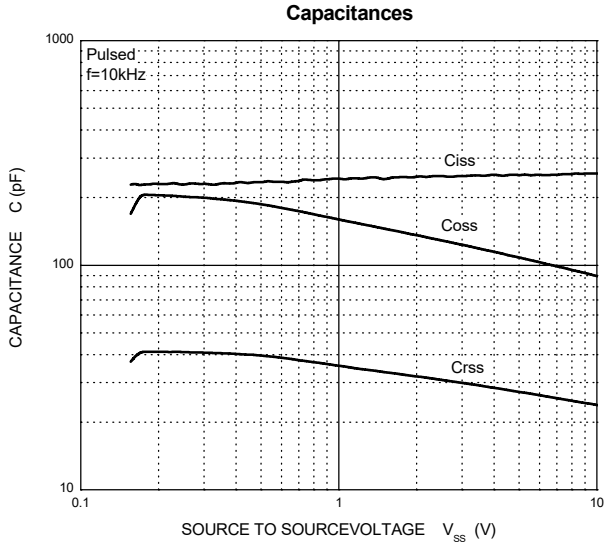
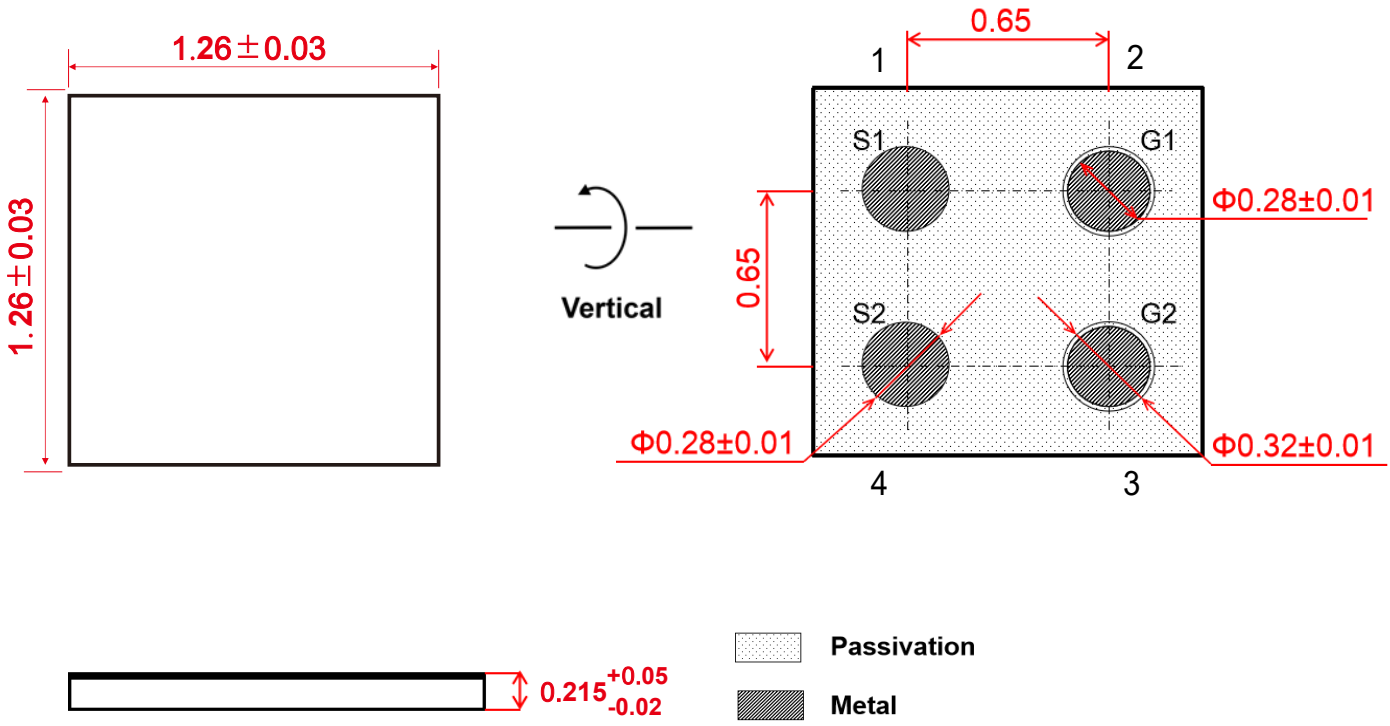




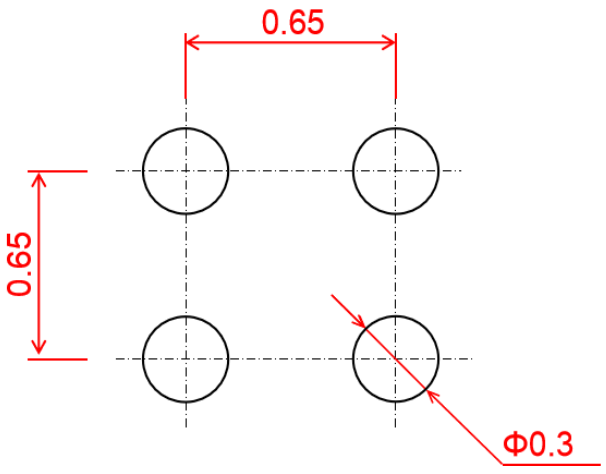




CSPB1313-4 Package Outline Dimensions(Unit:mm)

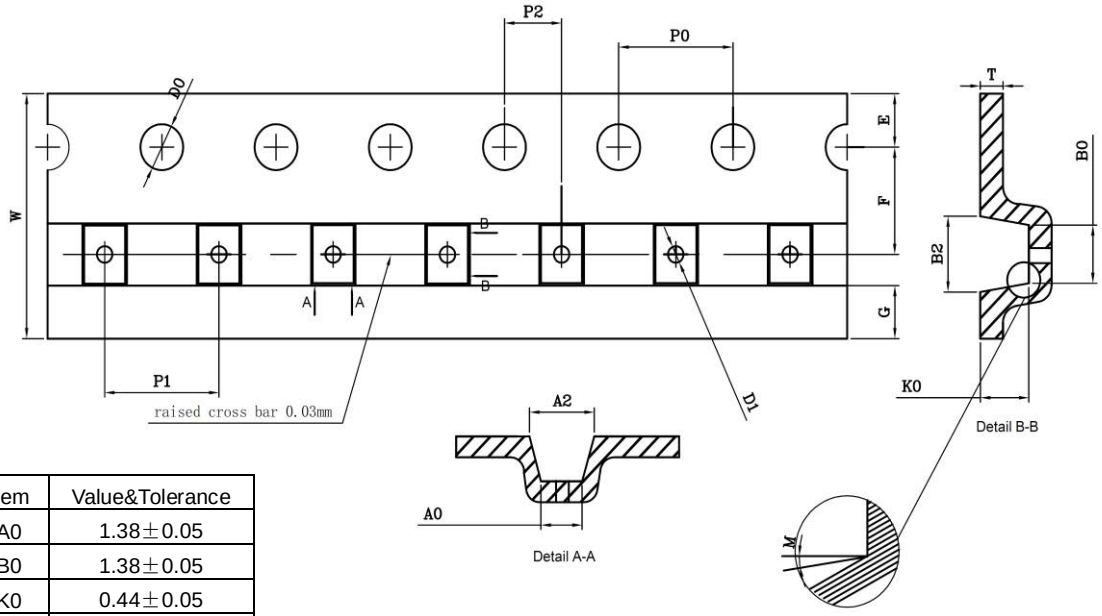


CSPB1313-4 Suggested Pad Layout (Unit:mm)

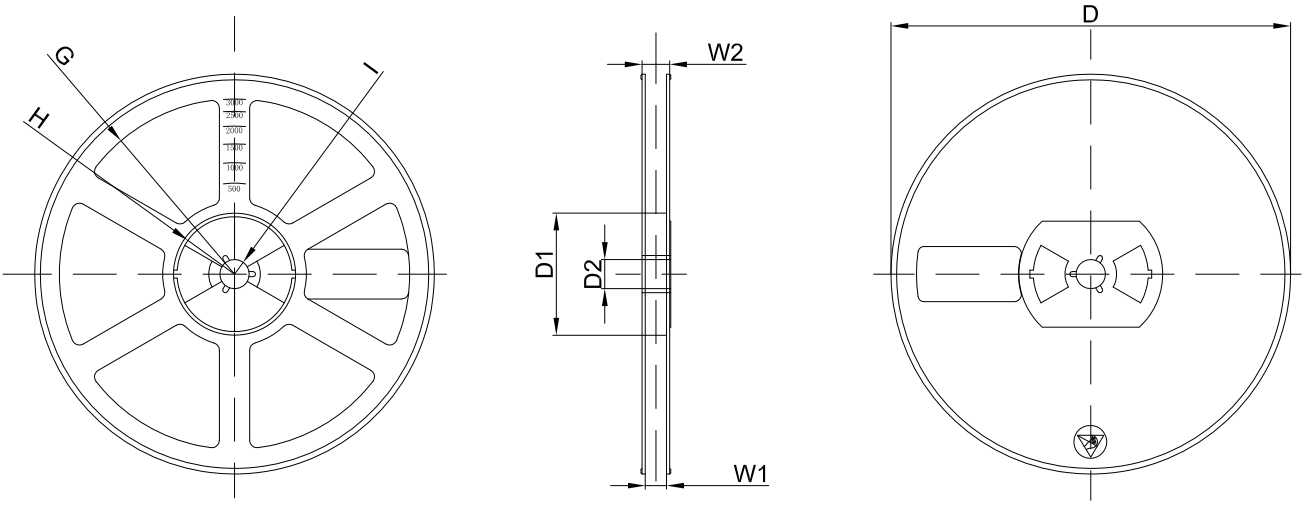


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.050mm.
3.The pad layout is for reference purposes only.

CSPB1313-4 Tape (Unit:mm)



Item	Value&Tolerance
A0	1.38±0.05
B0	1.38±0.05
K0	0.44±0.05
A2	NA
B2	NA
D0	1.50±0.10
D1	0.50±0.05
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.05
E	1.75±0.10
F	3.50±0.05
G	NA
T	0.20±0.02
W	8.00+0.30/-0.10
M	MAX 3°



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø180.00	60.00	13.00	R78.00	R25.60	R6.50	8.60	11.40

REEL	Reel Size	Box	Box Size(mm)
3000 pcs	7 inch	30,000 pcs	203×203×195

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