



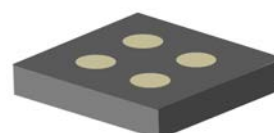
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

CSP Enhancement Mode Power MOSFET

CJ4616SP Dual N-Channel MOSFET

V_{SSS}	$R_{SS(on)}$ TYP	I_S
15V	14 mΩ@4.5V	8A
	14.5mΩ@4.0V	
	15 mΩ@3.8V	
	16 mΩ@3.1V	
	19 mΩ@2.5V	

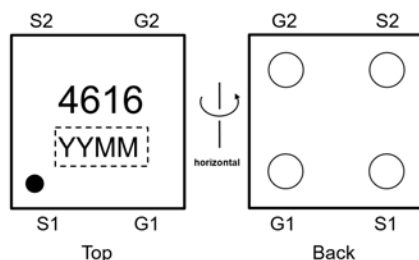
CSPB1515-4



DESCRIPTION

The CJ4616SP 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.

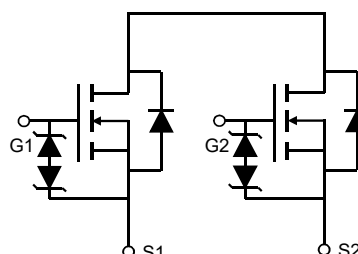
Marking and pin assignment



Marking:

1. 4616: Product Code
2. YYMM: Date Code
3. Solid dot: Pin 1

Equivalent Circuit



Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Limit	Unit
V_{SSS}	Source to Source Voltage	15	V
V_{GSS}	Gate-Source Voltage	± 12	V
I_S	Source Current(DC) ¹	8	A
I_{SP}	Source Current (Pulse) ^{1,2}	60	A
P_T	Total Dissipation ¹	1.5	W
T_{ch}	Channel Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 To 150	$^\circ\text{C}$

Note 1 Mounted on FR4 board (25.4 mm × 25.4 mm × t1.0 mm)
using the minimum recommended pad size (36μm Copper).

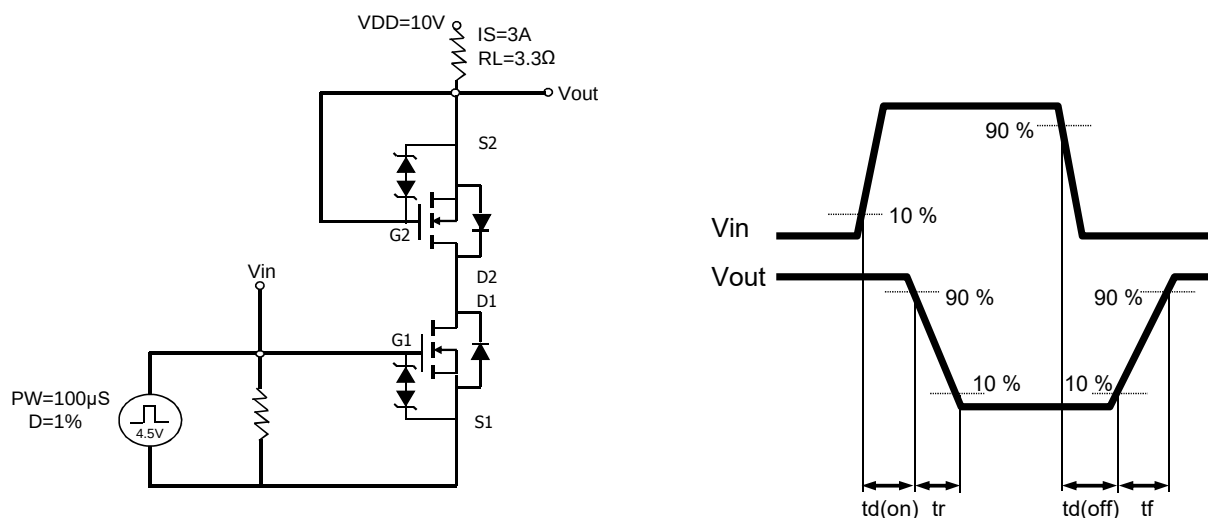
2 $t = 10 \mu\text{s}$, Duty Cycle $\leq 1\%$

MOSFET ELECTRICAL CHARACTERISTICS

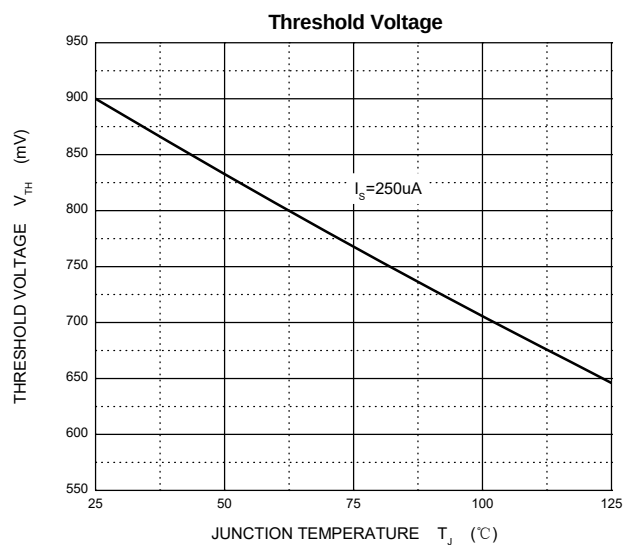
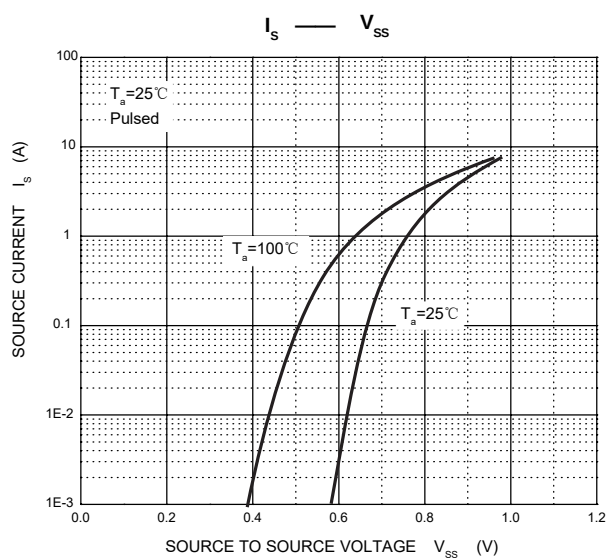
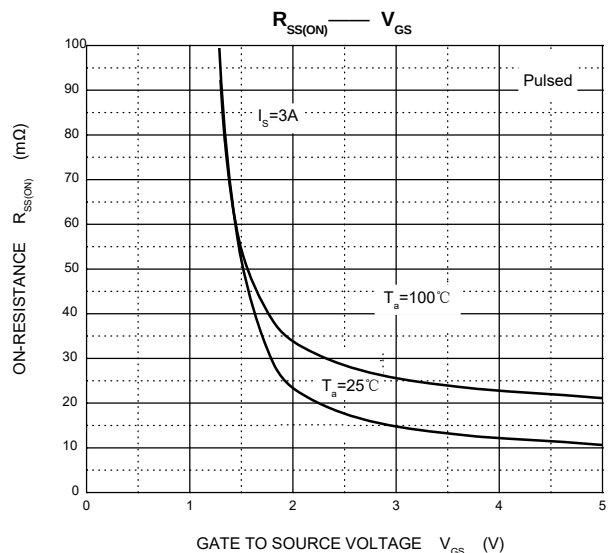
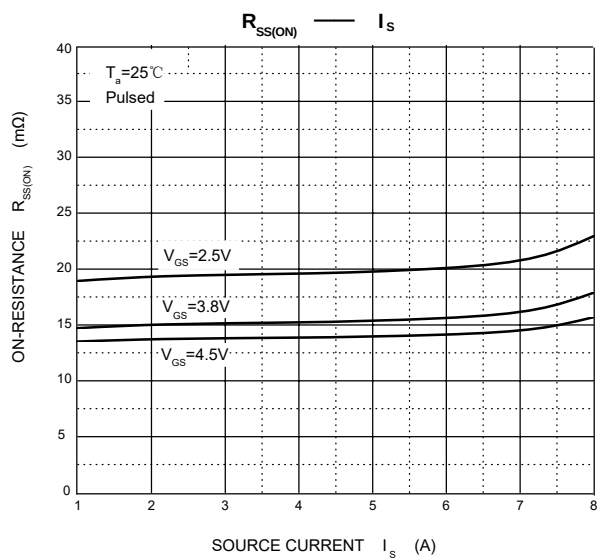
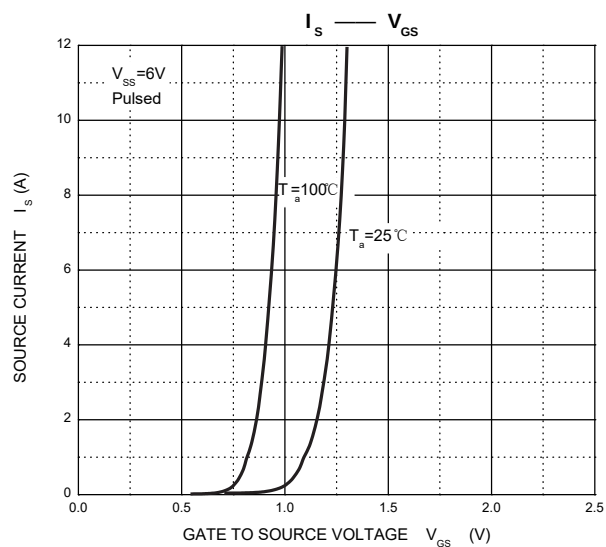
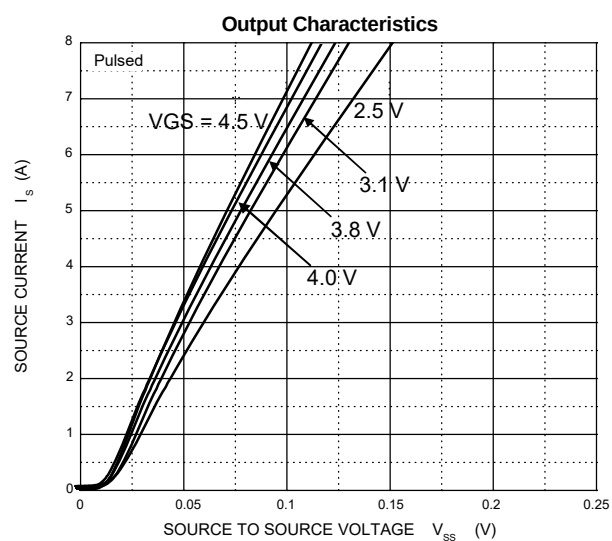
Electrical Characteristics (T_A=25°C unless otherwise noted)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Parameters						
BV _{SSS}	Source to Source Breakdown Voltage	I _S =250μA, V _{GS} =0V	15			V
I _{SSS}	Zero- Gate Voltage Source Current	V _{SS} =15V, 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} =7.5V, I _S =250μA	0.5	0.9	1.3	V
y _{gFs}	Forward Transfer Admittance	V _{SS} =10V, I _S =3A	1	9	-	S
R _{SS(on)}	Static Source to Source On-Resistance	V _{GS} =4.5V, I _S =3A	10.0	14.0	18.0	mΩ
		V _{GS} =4.0V, I _S =3A	10.5	14.5	19.0	mΩ
		V _{GS} =3.8V, I _S =3A	11.0	15.0	20.0	mΩ
		V _{GS} =3.1V, I _S =3A	12.0	16.0	21.0	mΩ
		V _{GS} =2.5V, I _S =3A	13.0	19.0	30.0	mΩ
t _{d(on)}	Turn-on Delay Time	V _{SS} =10V, I _S =3A V _{GS} =4.5V	-	4.6	-	μS
t _r	Turn-on Rise Time		-	20.2	-	μS
t _{d(off)}	Turn-Off Delay Time		-	40.4	-	μS
t _f	Turn-Off Fall Time		-	60.6	-	μS
C _{iss}	Input Capacitance	V _{SS} =10V, V _{GS} =0V, f=10kHz	-	485	-	pF
C _{oss}	Output capacitance		-	190	-	pF
C _{rss}	Reverse transfer capacitance		-	95	-	pF
Q _g	Total gate charge	V _{SS} =12V, I _S =6A, V _{GS} =4.5V	-	8.8	-	nC
V _{F(S-S)}	Diode Forward Voltage	V _{GS} =0V, I _S =1A	-	-	1.2	V

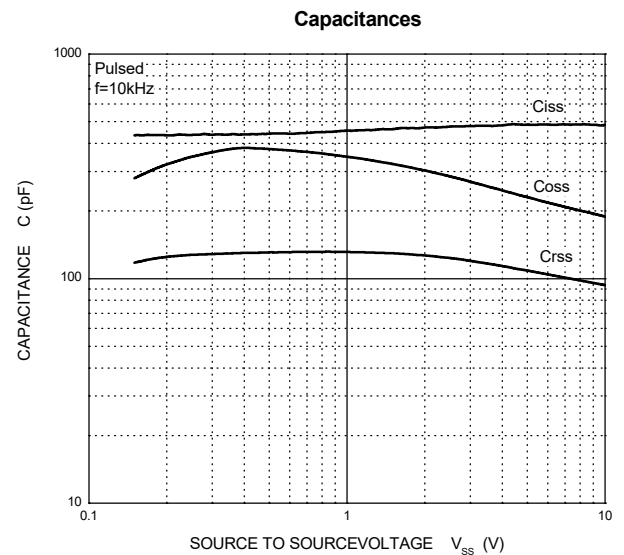
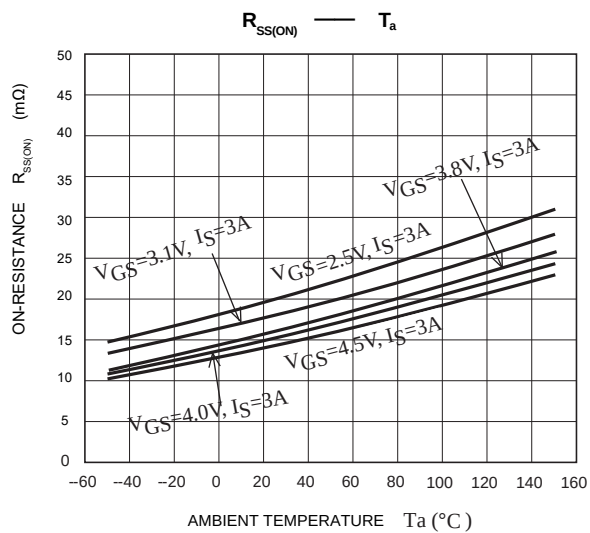
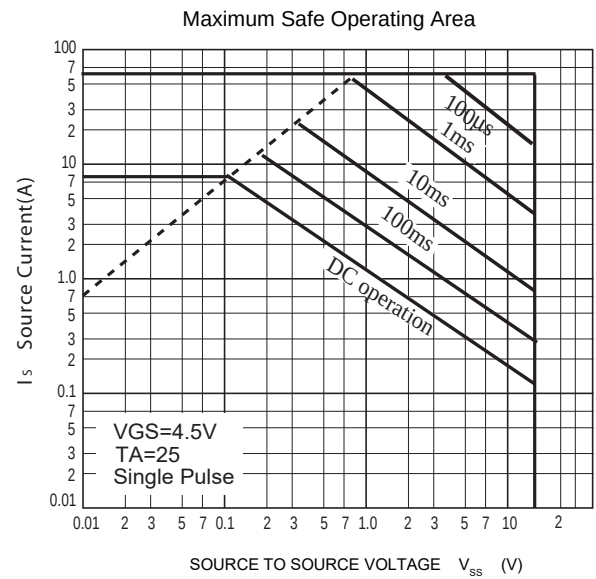
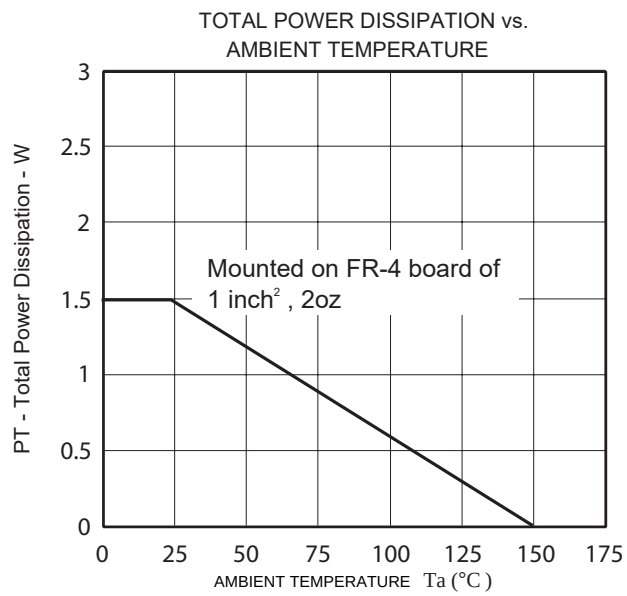
Note: Measurement circuit for t_{d(on)}/t_r/t_{d(off)}/t_f/Q_g, when FET1 is measured, G2 and S2 are short-circuited.



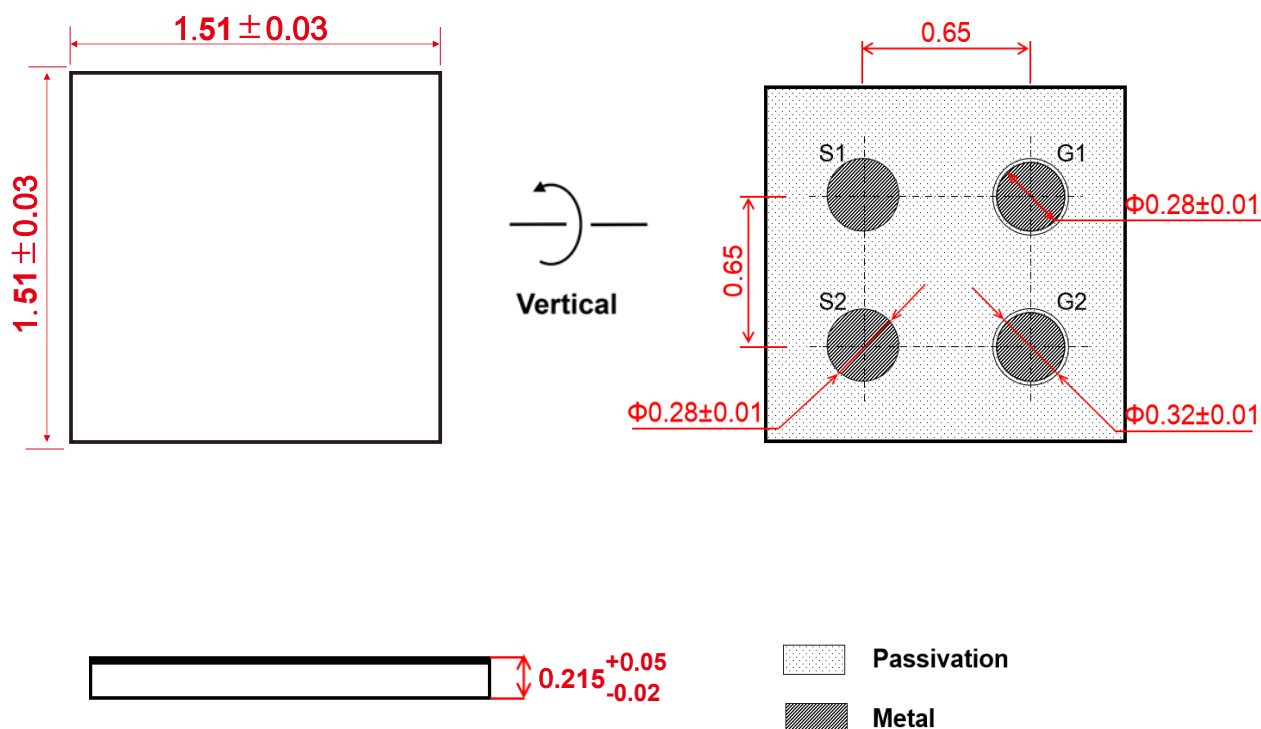
Typical Characteristics



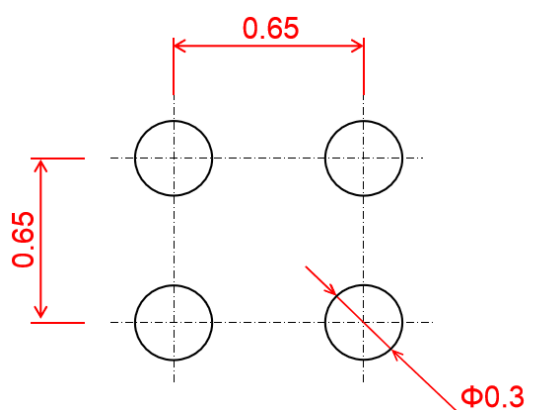
Typical Characteristics



CSPB1515-4 Package Outline Dimensions(Unit:mm)



CSPB1515-4 Suggested Pad Layout (Unit:mm)



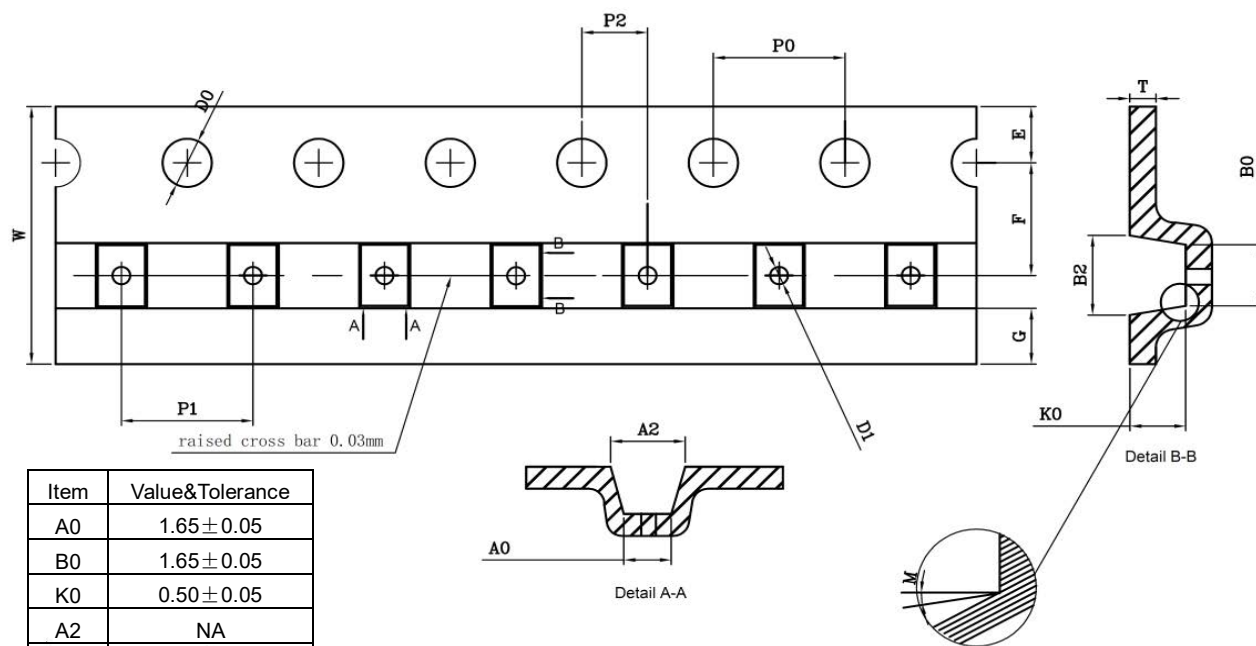
Note:

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

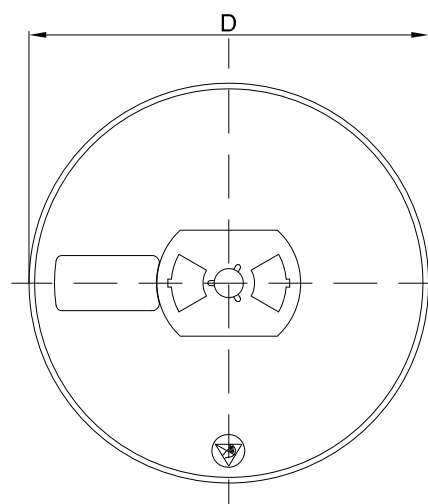
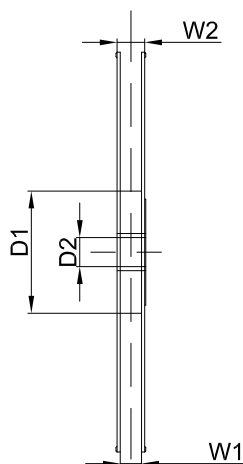
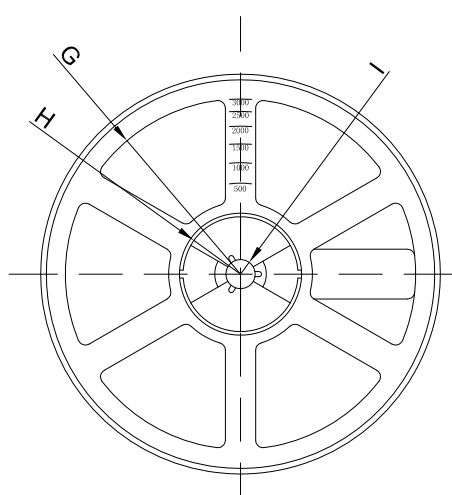
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CSPB1515-4 Tape (Unit:mm)



Item	Value&Tolerance
A0	1.65 ± 0.05
B0	1.65 ± 0.05
K0	0.50 ± 0.05
A2	NA
B2	NA
D0	$1.50 + 0.10 / - 0.00$
D1	1.00MIN
P0	4.00TYP
P1	4.00TYP
P2	2.00 ± 0.05
E	1.75 ± 0.10
F	3.50 ± 0.05
G	NA
T	0.20 ± 0.05
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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