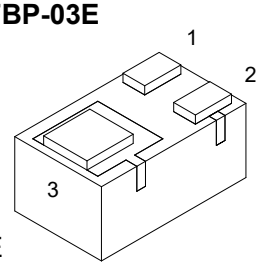
WBFBP-03E Plastic-Encapsulate MOSFETs

CJAA7002KL N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60V	3.5Ω@10V	0.34A
	4.0Ω@4.5V	

WBFBP-03E



1.GATE
2.SOURCE
3.DRAIN

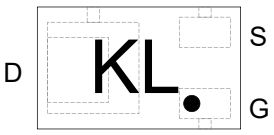
FEATURE

- High density cell design for Low $R_{DS(on)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- ESD protected

APPLICATION

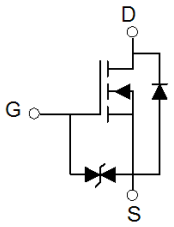
- Load Switch for Portable Devices
- DC/DC Converter

MARKING



Top View
KL=Device code
Solid dot = Pin 1 indicator

Equivalent Circuit



MOSFET MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	0.34	A
Power Dissipation(note1)	P_D	350	mW
Thermal Resistance from Junction to Ambient(note1)	$R_{\theta JA}$	357	℃/W
Operation Junction and Storage Temperature Range	T_J,T_{STG}	-55~ +150	℃

MOSFET ELECTRICAL CHARACTERISTICS

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static Characteristics						
Drain-Source Breakdown Voltage	V_{DS}	V_{GS} = 0V, I_D =250μA	60			V
Gate Threshold Voltage*	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =1mA	1	1.6	2.5	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =48V,V_{GS} = 0V			1	μA
Gate –Source leakage current	I_{GSS1}	V_{GS} =±20V, V_{DS} = 0V			±10	μA
	I_{GSS2}	V_{GS} =±10V, V_{DS} = 0V			±200	nA
	I_{GSS3}	V_{GS} =±5V, V_{DS} = 0V			±100	nA
Drain-Source On-Resistance*	$R_{DS(on)}$	V_{GS} =10V,I_D =340mA			3.5	Ω
		V_{GS} = 4.5V, I_D =200mA			4	Ω
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=240mA			1.5	V
Recovered charge	Q_r	V_{GS}=0V,I_S=240mA,V_R=25V, dI_S/dt=-100A/μS		30		nC
Dynamic Characteristics**						
Input Capacitance	C_{iss}	V_{DS} =10V,V_{GS} =0V,f =1MHz			40	pF
Output Capacitance	C_{oss}				30	pF
Reverse Transfer Capacitance	C_{rss}				10	pF
Switching Characteristics**						
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V,V_{DD}=50V,R_G=50Ω, R_{GS}=50Ω, R_L=250Ω			10	ns
Turn-Off Delay Time	$t_{d(off)}$				15	ns
Reverse recovery Time	t_{rr}	V_{GS}=0V,I_S=300mA,V_R=25V, dI_S/dt=-100A/μS		30		ns
GATE-SOURCE ZENER DIODE						
Gate-Source Breakdown Voltage	BV_{GSO}	I_{gs}=±1mA (Open Drain)	±21.5		±30	V

Notes :

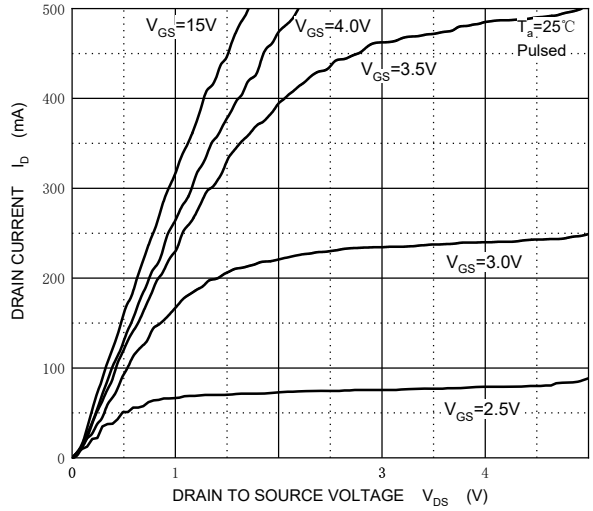
*Pulse Test : Pulse Width ≤300μs, Duty Cycle ≤2%.

**These parameters have no way to verify.

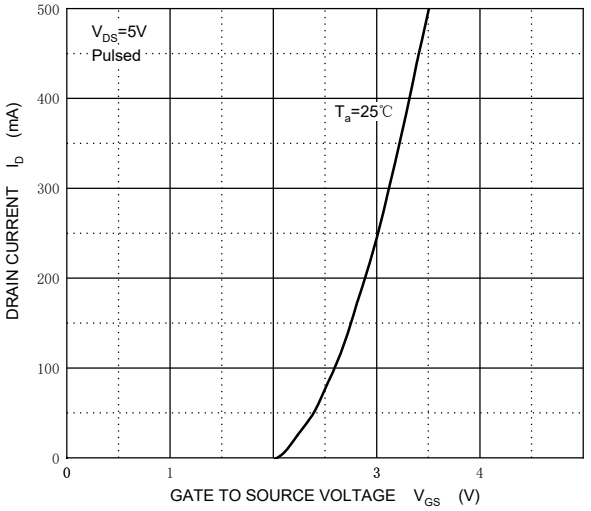
1.Surface mounted on FR4 board using 1 square inch pad size, 1oz copper.

Typical Characteristics

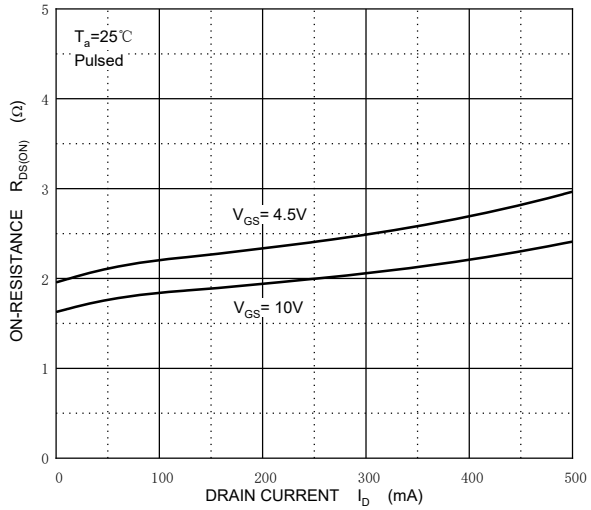
Output Characteristics



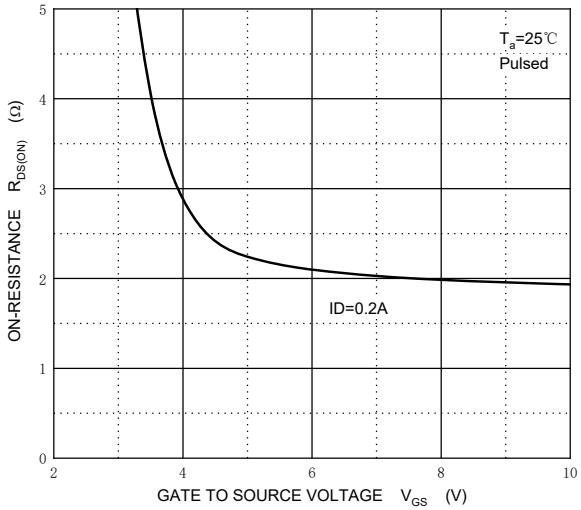
Transfer Characteristics



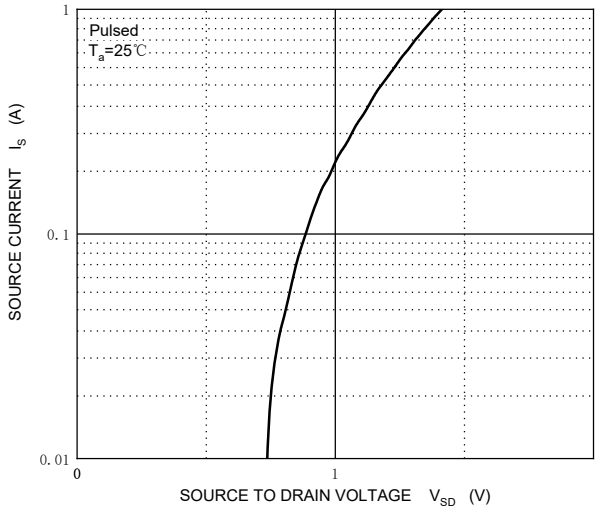
$R_{DS(ON)}$ —— I_D



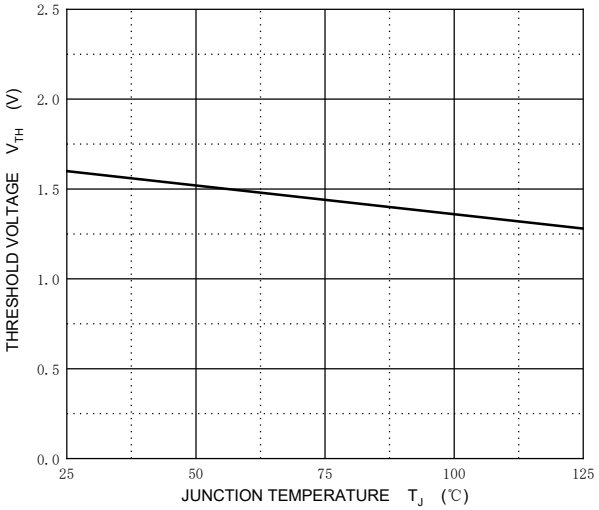
$R_{DS(ON)}$—— V_{GS}



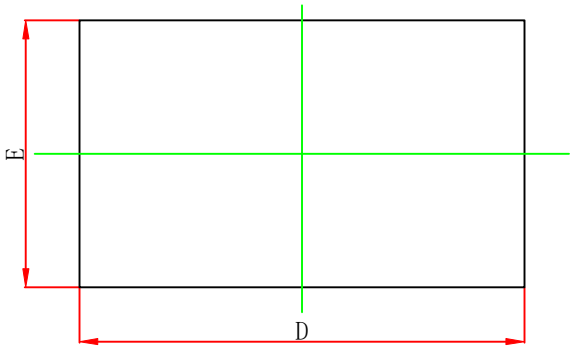
I_S —— V_{SD}



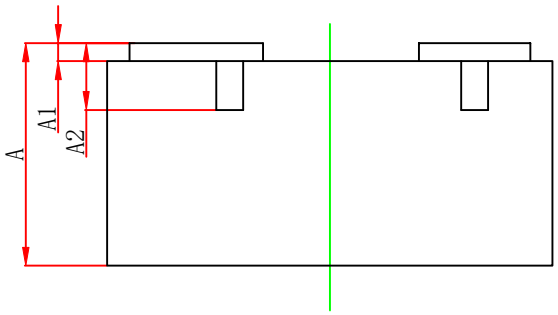
Threshold Voltage



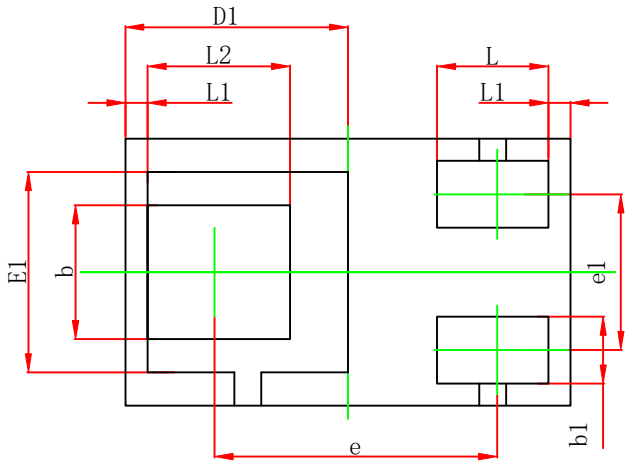
WBFBP-03E Package Outline Dimensions



TOP VIEW



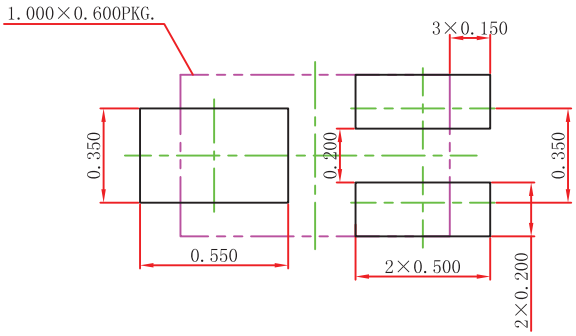
SIDE VIEW



BOTTOM VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.100	0.000	0.004
A2	0.150REF.		0.006REF.	
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
D1	0.500REF.		0.020REF.	
E1	0.450REF.		0.018REF.	
b	0.250	0.350	0.010	0.014
b1	0.100	0.200	0.004	0.008
e	0.635REF.		0.025REF.	
e1	0.300	0.400	0.012	0.016
L	0.200	0.300	0.008	0.012
L1	0.050REF.		0.002REF.	
L2	0.270	0.370	0.011	0.015

WBFBP-03E Suggested Pad Layout

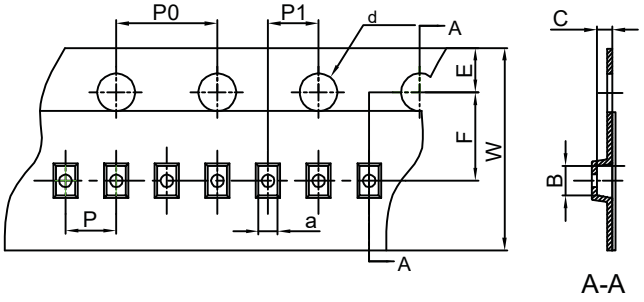


Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.050mm.
3.The pad layout is for reference purposes only.

NOTICE

SZCJ reserves the right to make modifications,enhan nts,improvements,corrections or other es without further notice to any product herein. SZCJ does not assume any liability arising out of the application or use of any product described h

WBFBP-03E(1.0×0.6×0.5) Embossed Carrier Tape

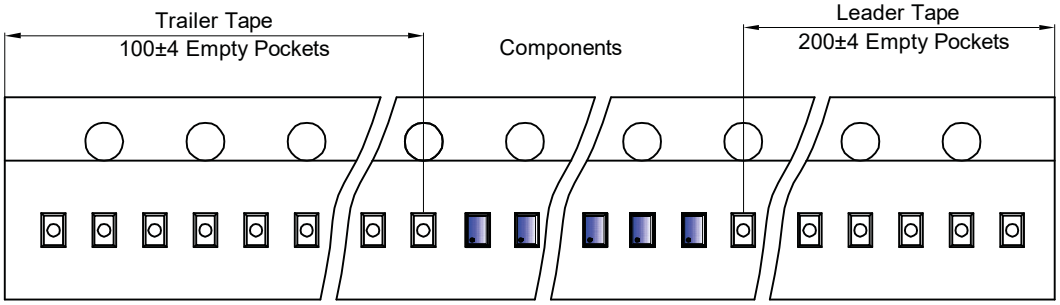


Packaging Description:

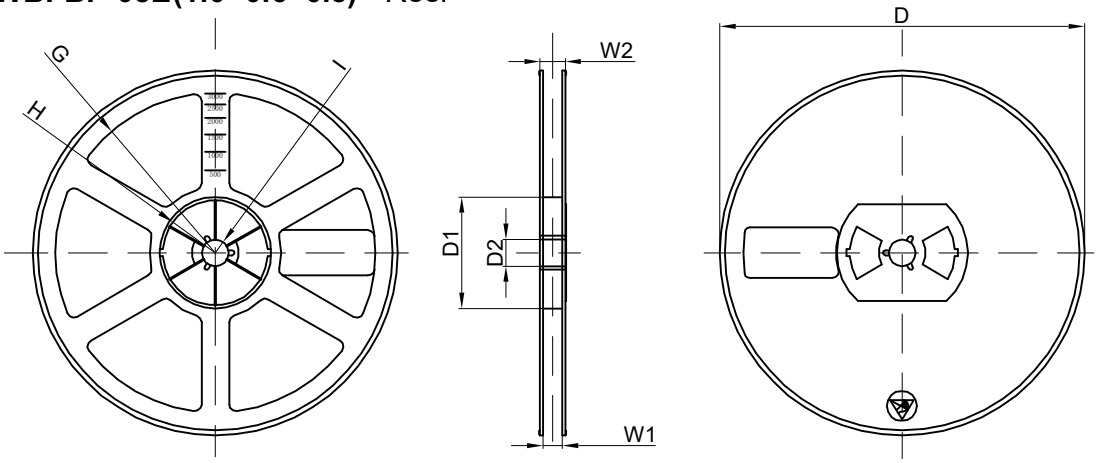
WBFBP-03E(1.0×0.6×0.5) parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 10,000 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
WBFBP-03E (1.0×0.6×0.5)	0.66	1.15	0.66	Ø1.50	1.75	3.50	4.00	2.00	2.00	8.00

WBFBP-03E(1.0×0.6×0.5) Tape Leader and Trailer



WBFBP-03E(1.0×0.6×0.5) 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)
10000 pcs	7 inch	150,000 pcs	203×203×195	600,000 pcs	438×438×220	