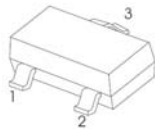
SZCJ Shenzhen Changji Semiconductor Co., LTD.

SOT-23 Plastic-Encapsulate MOSFETS

CJ2305A P-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
-12V	50mΩ@-4.5V	-4.1A
	65mΩ@-2.5V	
	120mΩ@-1.8V	

SOT-23



1. GATE
2. SOURCE
3. DRAIN

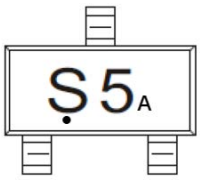
FEATURE

- TrenchFET Power MOSFET

APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

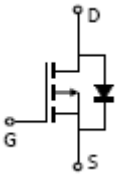
MARKING



$S5_A$=Device code

Solid dot=Green molding compound device.

Equivalent Circuit



Maximum ratings (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-12	V
Gate-Source Voltage	V_{GS}	±8	
Continuous Drain Current	I_D	-4.1	A
Continuous Source-Drain Diode Current	I_S	-0.8	
Maximum Power Dissipation [d]	P_D	1.3	W
Thermal Resistance from Junction to Ambient [d]	$R_{\theta JA}$	96.2	℃/W
Operation Junction and Storage Temperature Range	T_J,T_{STG}	-50 ~+150	℃

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25℃ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-12			V
Gate-source threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.5		-1	
Gate-source leakage	I_{GSS}	V_{DS} =0V, V_{GS} =±8V			±100	nA
Zero gate voltage drain current	I_{DSS}	V_{DS} =-8V, V_{GS} =0V			-1	μA
Drain-source on-state resistance [a]	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-3.5A		40	50	mΩ
		V_{GS} =-2.5V, I_D =-3A		55	65	
		V_{GS} =-1.8V,I_D=-2.0A		90	120	
Forward transconductance [a]	g_{fs}	V_{DS} =-5V, I_D =-4.1A	6			S
Dynamic						
Input capacitance [b,c]	C_{iss}	V_{DS} =-4V,V_{GS} =0V,f =1MHz		740		pF
Output capacitance [b,c]	C_{oss}			290		
Reverse transfer capacitance [b,c]	C_{rss}			190		
Total gate charge [b]	Q_g	V_{DS} =-4V,V_{GS} =-4.5V, I_D =-4.1A		7.8	15	nC
		V_{DS} =-4V,V_{GS} =-2.5V, I_D =-4.1A		4.5	9	
Gate-source charge [b]	Q_{gs}			1.2		
Gate-drain charge [b]	Q_{gd}			1.6		
Gate resistance [b,c]	R_g	f =1MHz	1.4	7	14	Ω
Turn-on delay time [b,c]	$t_{d(on)}$	V_{DD}=-4V, R_L=1.2Ω, I_D ≈-3.3A, V_{GEN}=-4.5V,Rg=1Ω		13	20	ns
Rise time [b,c]	t_r			35	53	
Turn-off Delay time [b,c]	$t_{d(off)}$			32	48	
Fall time [b,c]	t_f			10	20	
Turn-on delay time [b,c]	$t_{d(on)}$	V_{DD}=-4V, R_L=1.2Ω, I_D ≈-3.3A, V_{GEN}=-8V,Rg=1Ω		5	10	
Rise time [b,c]	t_r			11	17	
Turn-off delay time [b,c]	$t_{d(off)}$			22	33	
Fall time [b,c]	t_f			16	24	
Drain-source body diode characteristics						
Continuous source-drain diode current	I_S	T_C=25℃			-1.4	A
Pulse diode forward current [a]	I_{SM}				-10	
Body ciode voltage	V_{SD}	I_F=-3.3A			-1.2	V

Note :

a. Pulse Test ; Pulse Width ≤300μs, Duty Cycle ≤2%.

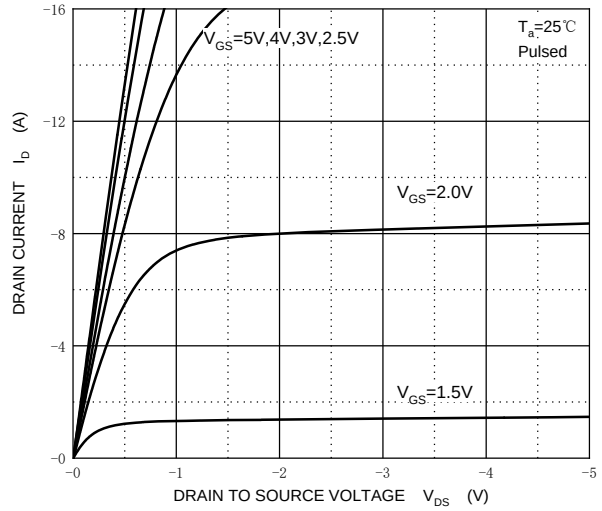
b. Guaranteed by design, not subject to production testing.

c. These parameters have no way to verify.

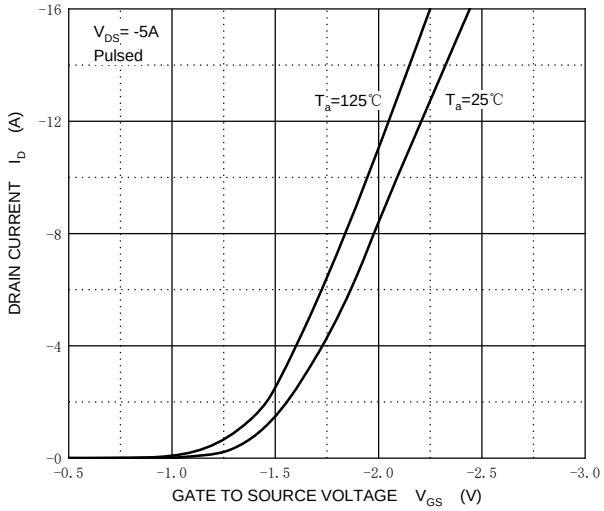
d. The value of P_D&$R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz. Copper, double sided, in a still air environment with Ta=25℃.

Typical Characteristics

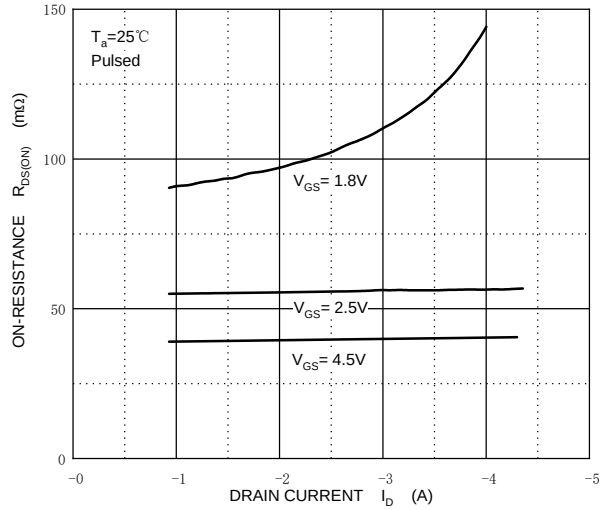
Output Characteristics



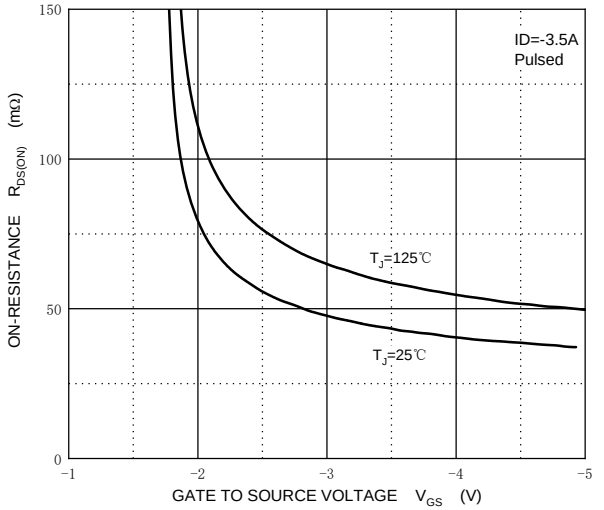
Transfer Characteristics



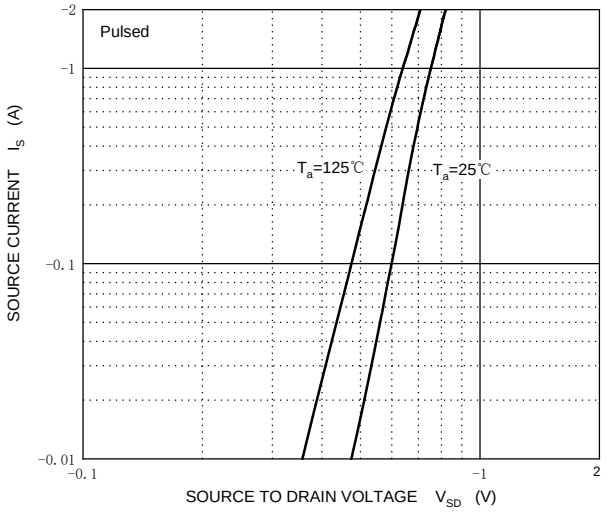
$R_{DS(ON)}$ —— I_D



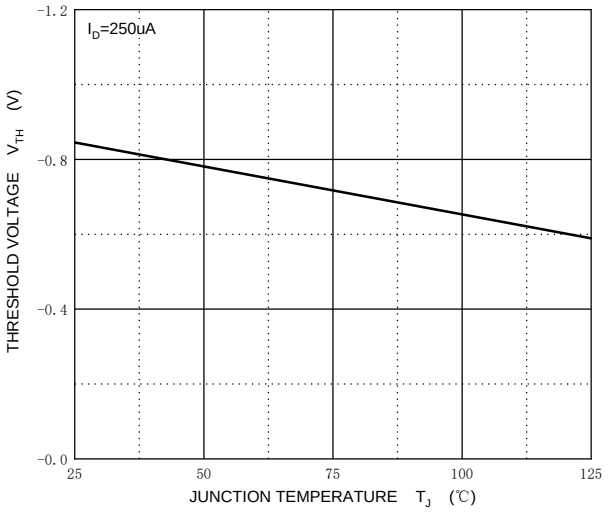
$R_{DS(ON)}$—— V_{GS}



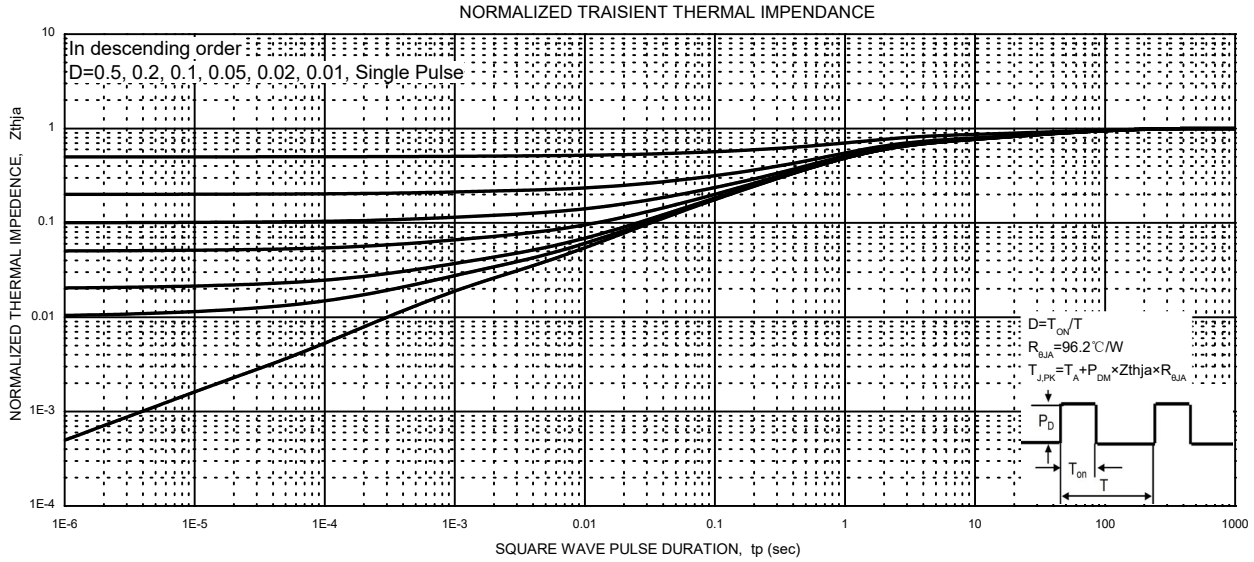
I_S —— V_{SD}

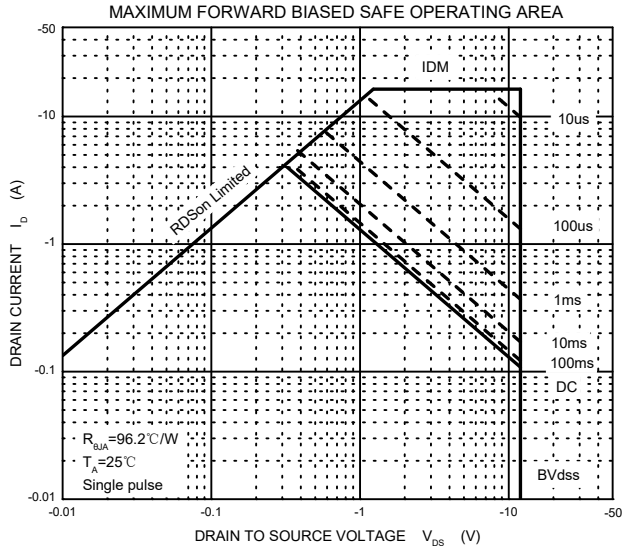


Threshold Voltage

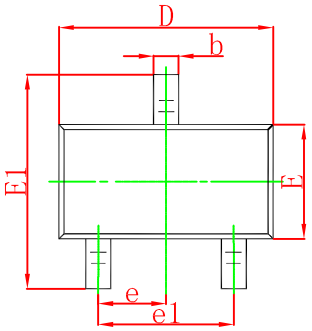


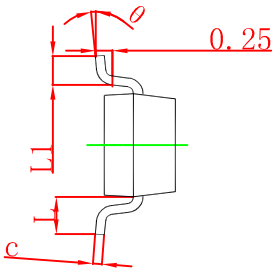
Typical Characteristics

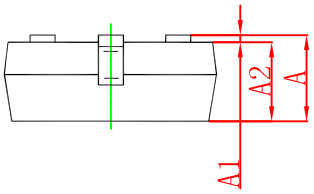




SOT-23 Package Outline Dimensions

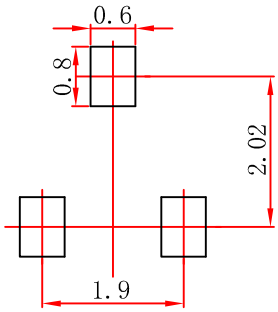






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 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



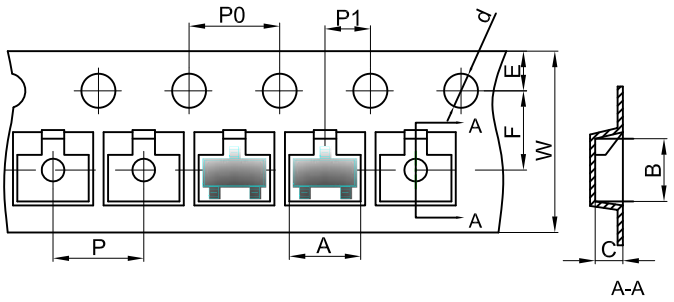
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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

SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

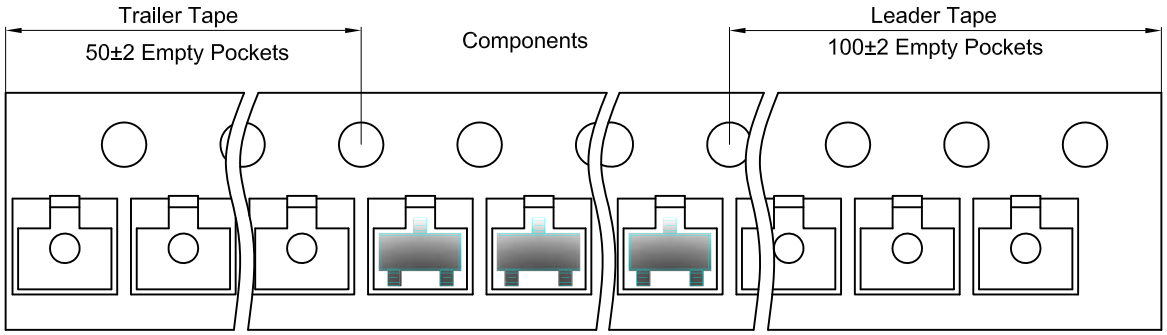


Packaging Description:

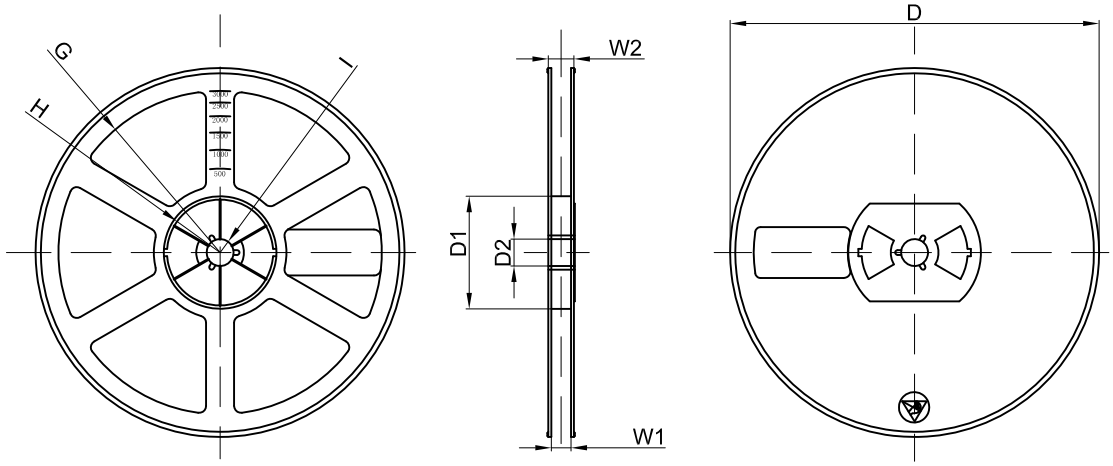
SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in 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	