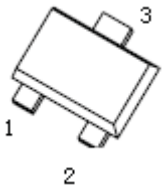
SZCJ Shenzhen Changji Semiconductor Co., LTD.

SOT-723 Plastic-Encapsulate MOSFETS

CJ3139K P-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
-20V	520mΩ@-4.5V	-0.66A
	700mΩ@-2.5V	
	950mΩ（TYP）@-1.8V	

SOT-723



1. GATE
2. SOURCE
3. DRAIN

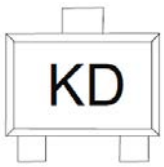
FEATURE

- Lead Free Product is Acquired
- Surface Mount Package
- P-Channel Switch with Low R_{DS}(on)
- Operated at Low Logic Level Gate Drive

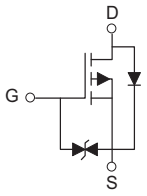
APPLICATION

- Load/Power Switching
- Interfacing, Logic Switching
- Battery Management for Ultra Small Portable Electronics

MARKING



Equivalent Circuit



Maximum ratings (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Typical Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current (note 1)	I_D	-0.66	A
Pulsed Drain Current (t_p=10μs)	I_{DM}	-2.64	A
Power Dissipation (note 1)	P_D	150	mW
Thermal Resistance from Junction to Ambient (note 1)	$R_{\theta JA}$	833	℃/W
Operation Junction and Storage Temperature Range	T_J,T_{STG}	-55~+150	℃
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	℃

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25℃ unless otherwise specified

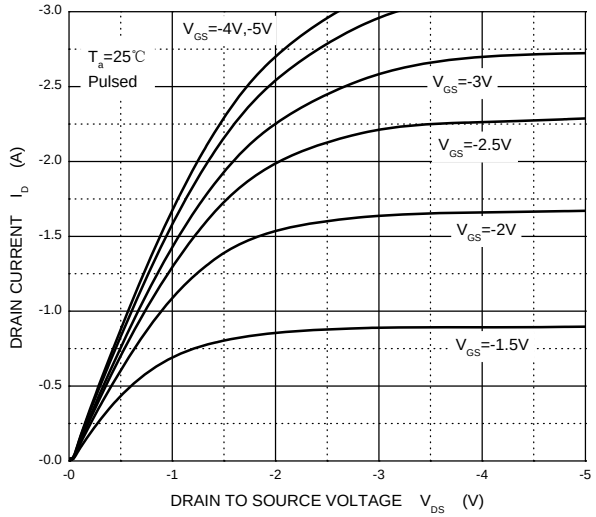
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-20V,V_{GS} = 0V			-1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±10V, V_{DS} = 0V			±20	μA
Gate threshold voltage (note 2)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.35	-0.45	-1.1	V
Drain-source on-resistance (note 2)	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-1A		430	520	mΩ
		V_{GS} =-2.5V, I_D =-0.8A		624	700	mΩ
		V_{GS} =-1.8V, I_D =-0.5A		950		mΩ
Forward transconductance (note 2)	g_{FS}	V_{DS} =-10V, I_D =-0.54A		1.2		S
Diode forward voltage	V_{SD}	I_S=-0.5A, V_{GS} = 0V			-1.2	V
DYNAMIC CHARACTERISTICS (note 4)						
Input capacitance	C_{iss}	V_{DS} =-16V,V_{GS} =0V,f =1MHz		113	170	pF
Output capacitance	C_{oss}			15	25	pF
Reverse transfer capacitance	C_{rss}			9	15	pF
SWITCHING CHARACTERISTICS (note 4)						
Turn-on delay time (note 3)	$t_{d(on)}$	V_{GS}=-4.5V,V_{DS}=-10V, I_D =-200mA,R_{GEN}=10Ω		9		ns
Turn-on rise time (note 3)	t_r			5.8		ns
Turn-off delay time (note3)	$t_{d(off)}$			32.7		ns
Turn-off fall time (note 3)	t_f			20.3		ns

Notes :

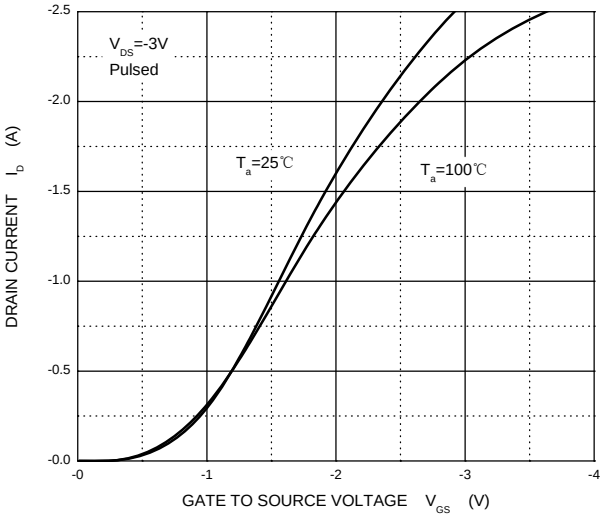
1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test : Pulse Width=300μs, Duty Cycle=2%.
3. Switching characteristics are independent of operating junction temperatures.
4. Guaranteed by design, not subject to producting.

Typical Characteristics

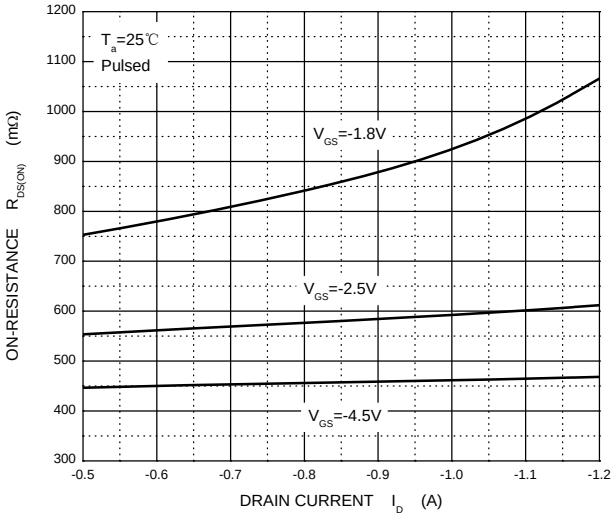
Output Characteristics



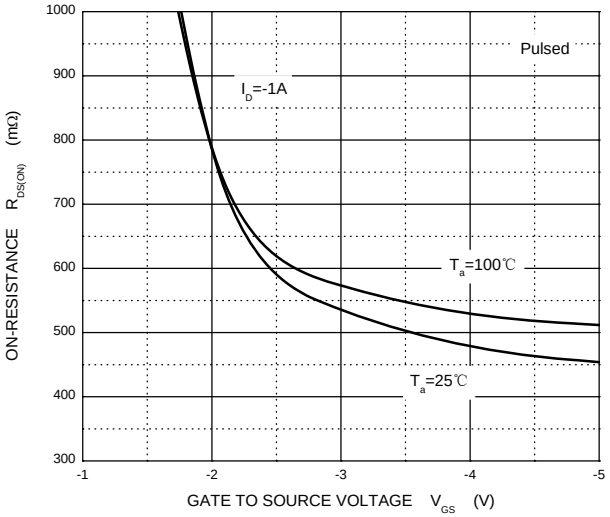
Transfer Characteristics



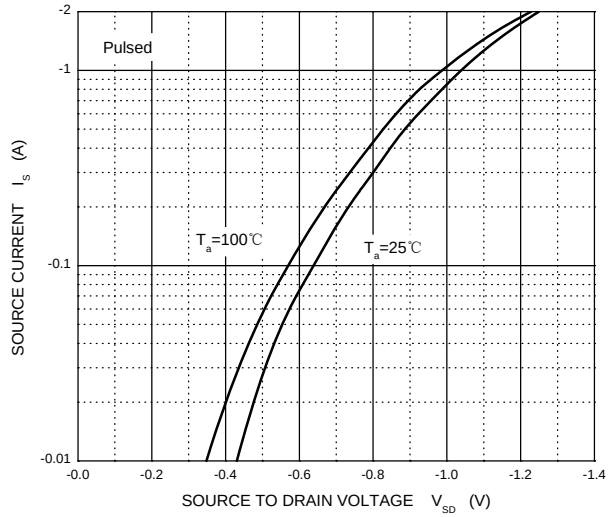
$R_{DS(ON)}$ —— I_D



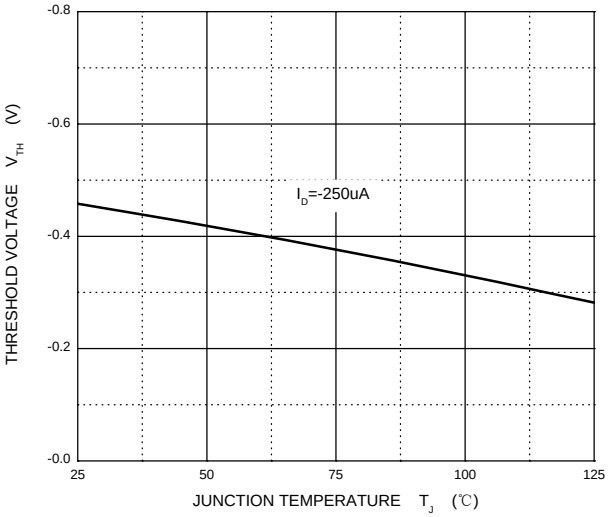
$R_{DS(ON)}$ —— V_{GS}



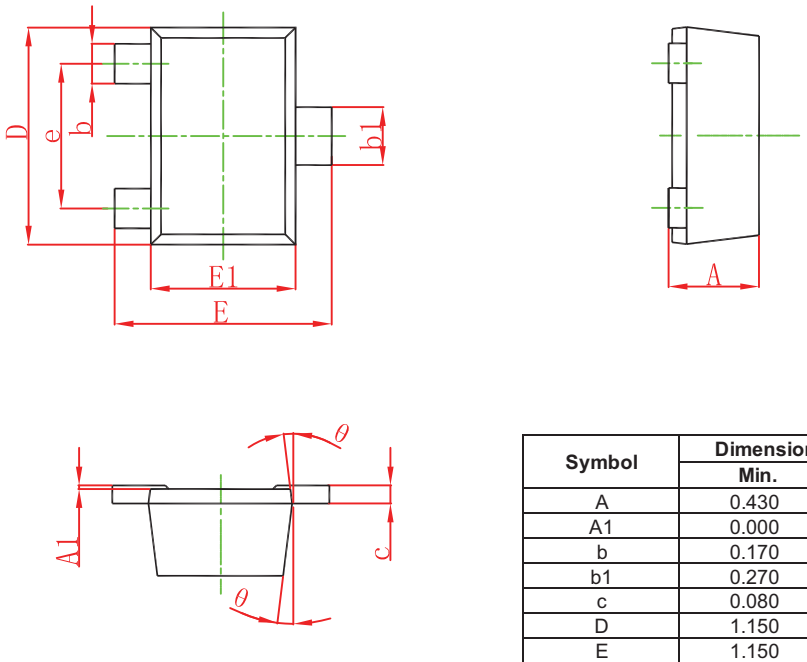
I_S —— V_{SD}



Threshold Voltage

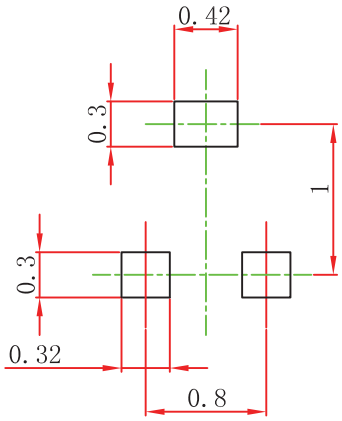


SOT-723 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.430	0.500	0.017	0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c	0.080	0.150	0.003	0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

SOT-723 Suggested Pad Layout



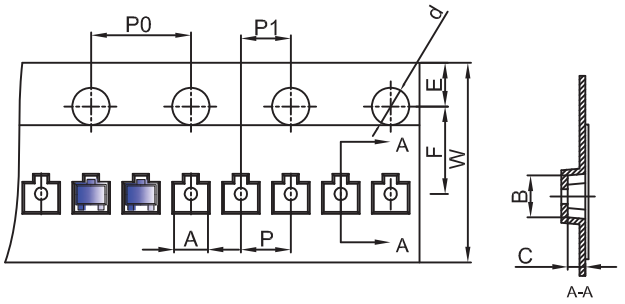
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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-723 Tape and Reel

SOT-723 Embossed Carrier Tape

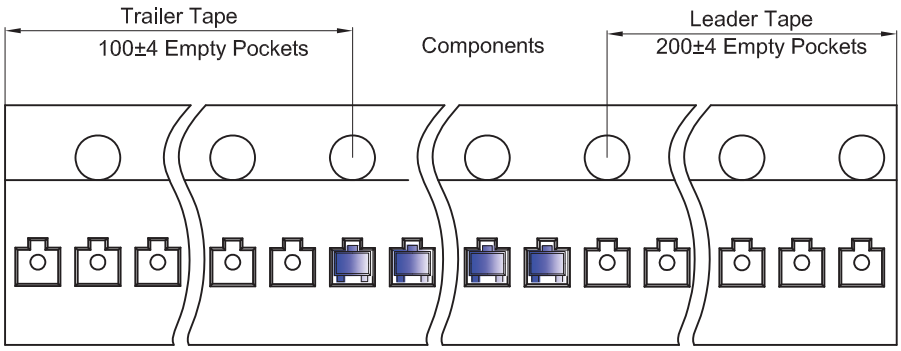


Packaging Description:

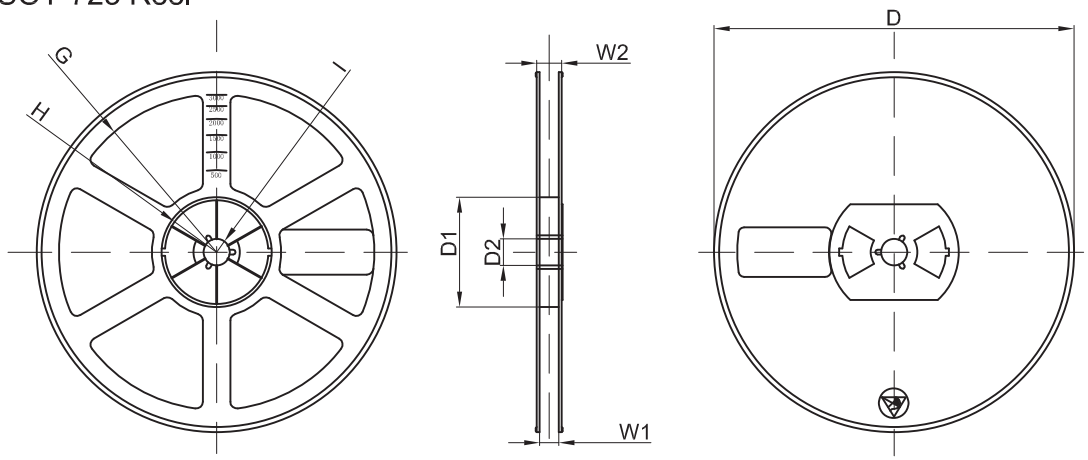
SOT-723 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 8,000 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-723	1.33	1.45	0.61	Ø1.50	1.75	3.50	4.00	2.00	2.00	8.00
(Tolerance)	+/-0.05	+/-0.05	+/-0.05	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+0.3/-0.1

SOT-723 Tape Leader and Trailer



SOT-723 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
Tolerance	+/-2	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
8,000 pcs	7 inch	120,000 pcs	210×208×205	480,000 pcs	440×440×230	