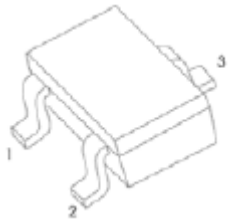
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

SOT-523 Plastic-Encapsulate MOSFETS

CJE3134K N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
20V	380 mΩ@4.5V	0.75A
	450 mΩ@2.5V	
	800mΩ@1.8V	

SOT-523



1. GATE
2. SOURCE
3. DRAIN

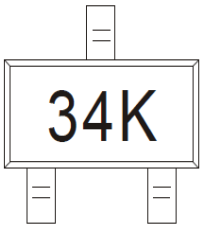
FEATURE

- High-Side Switching
- Low On-Resistance
- Low Threshold
- Fast Switching Speed

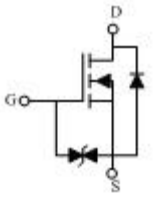
APPLICATION

- Drivers:Relays, Solenoids, Lamps, Hammers, Displays, Memories
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers

MARKING



Equivalent Circuit



Maximum ratings (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source voltage	V_{DSS}	20	V
Typical Gate-Source Voltage	V_{GS}	±12	
Drain Current-Continuous	I_D	0.75	A
Drain Current -Pulsed(note1)	I_{DM}	3	
Power Dissipation (note 2)	P_D	150	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	833	℃/W
Storage Temperature	T_j	150	℃
Junction Temperature	T_{stg}	-55 ~+150	

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25℃ unless otherwise specified

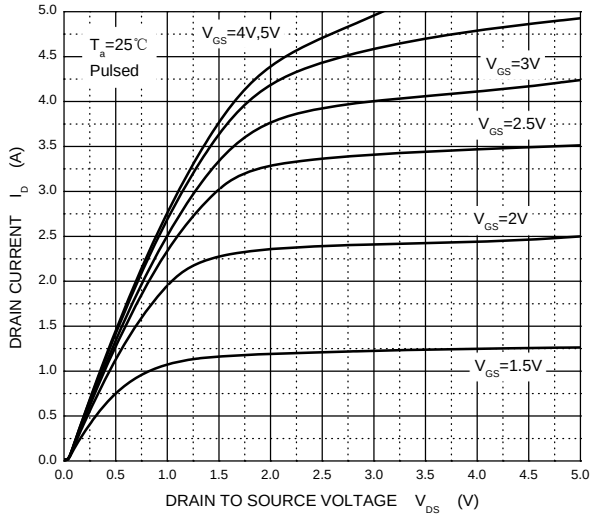
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
On/Off States						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Gate-Threshold Voltage(note 3)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.35		1.1	
Gate-Body Leakage Current	I_{GSS}	V_{DS} =0V, V_{GS} =±10V			±20	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =20V, V_{GS} =0V			1	μA
Drain-Source On-State Resistance(note 3)	$R_{DS(on)}$	V_{GS} =4.5V, I_D =650mA			380	mΩ
		V_{GS} =2.5V, I_D =550mA			450	
		V_{GS} =1.8V, I_D =450mA			800	
Forward Transconductance	g_{FS}	V_{DS} =10V, I_D =800mA	1			S
Dynamic Characteristics(note 4)						
Input Capacitance	C_{iss}	V_{DS} =16V,V_{GS} =0V,f =1MHz			120	pF
Output Capacitance	C_{oss}				20	
Reverse Transfer Capacitance	C_{rss}				15	
Switching Times (note 4)						
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=10V,I_D=500mA, V_{GS}=4.5V,R_G=10Ω		6.7		ns
Rise Time	t_r			4.8		
Turn-Off Delay Time	$t_{d(off)}$			17.3		
Fall Time	t_f			7.4		
Drain-Source Diode Characteristics						
Drain-Source Diode Forward Voltage (note 3)	V_{SD}	I_S=0.15A, V_{GS} = 0V			1.2	V

Notes:

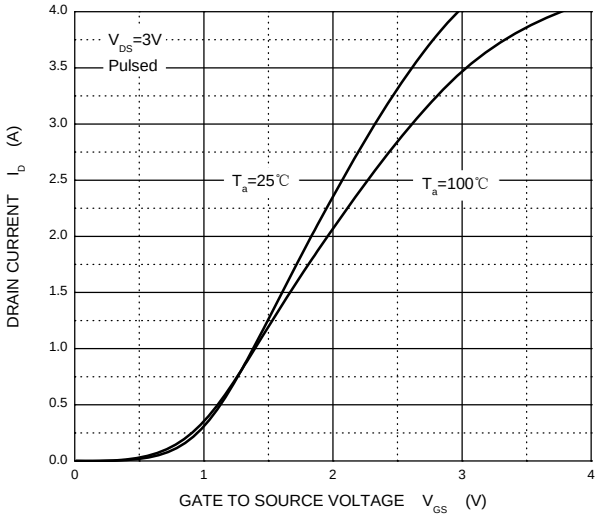
1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. This test is performed with no heat sink at T_a=25℃.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle≤0.5%.
4. These parameters have no way to verify.

Typical Characteristics

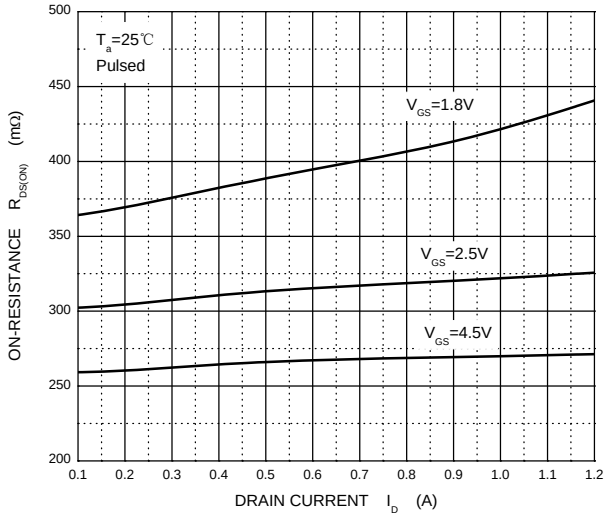
Output Characteristics



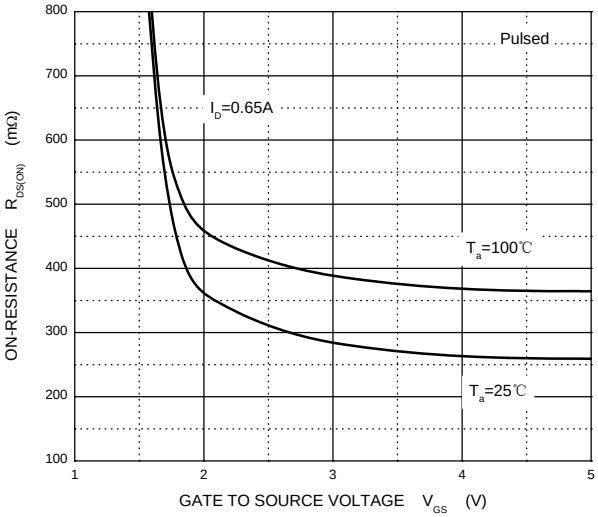
Transfer Characteristics



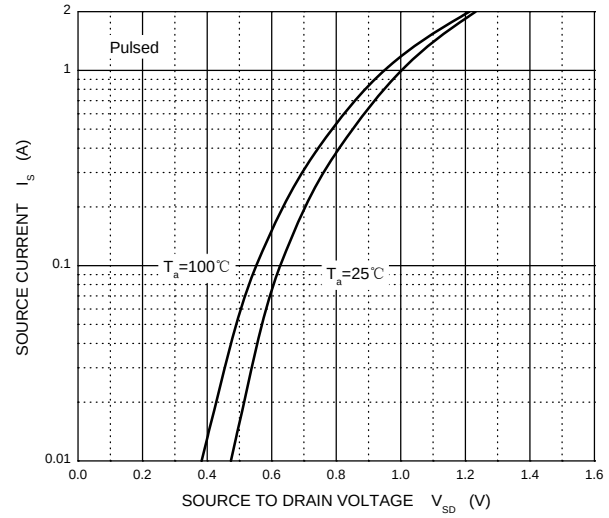
$R_{DS(ON)}$ —— I_D



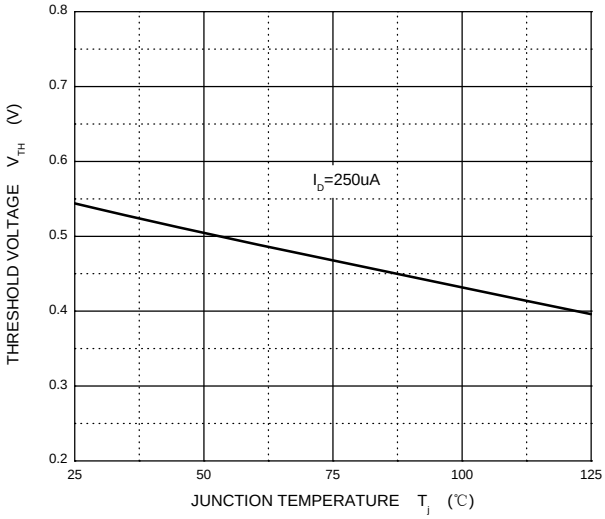
$R_{DS(ON)}$ —— V_{GS}



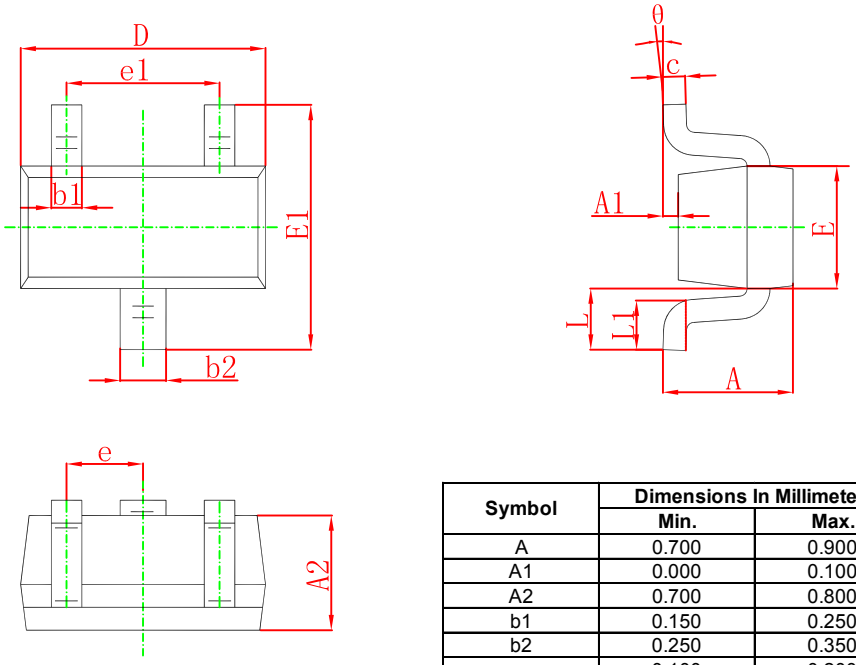
I_S —— V_{SD}



Threshold Voltage

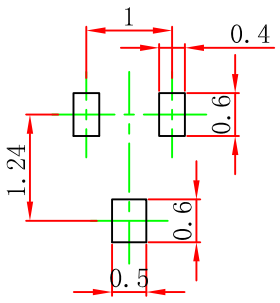


SOT-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-523 Suggested Pad Layout



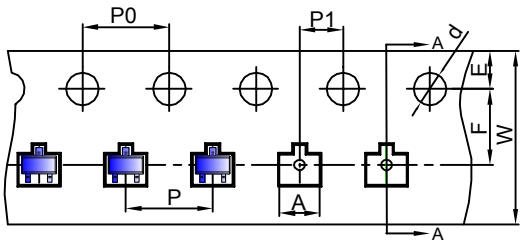
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.05mm.
3.The pad layout is for reference purposes only.

NOTICE

JCET reserve the right to make modifications,enhancements, improvements, corrections or other changes without further notice to any product herein.JCET does not assume any liability arising out of the application or use of any product described herein.

SOT-523 Tape and reel

SOT-523 Embossed Carrier Tape

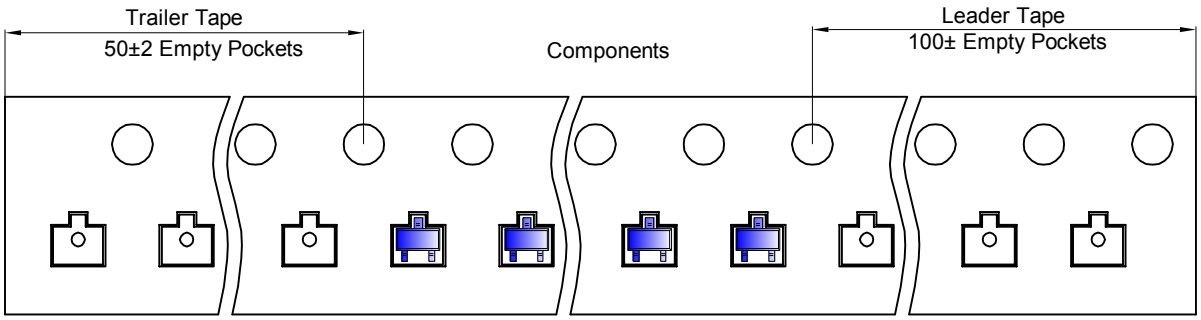


Packaging Description:

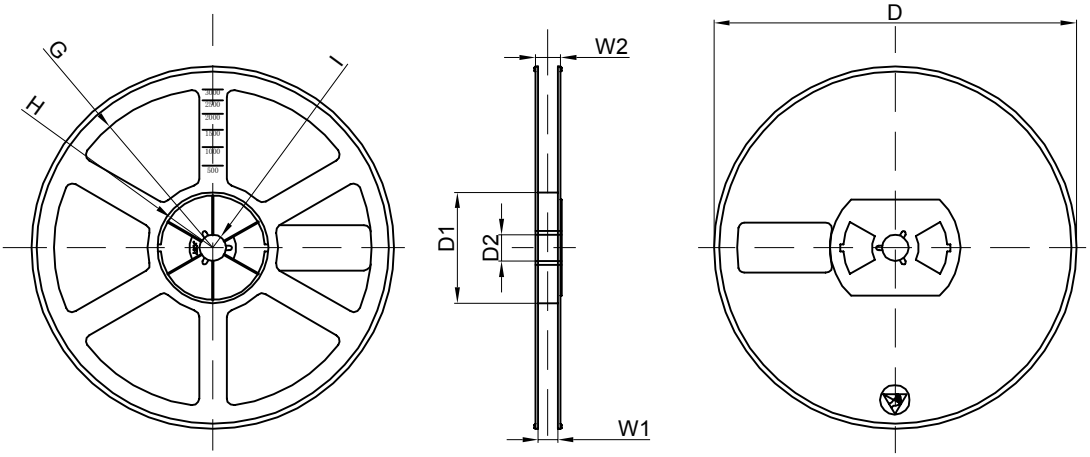
SOT-523 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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-523	1.85	1.85	0.875	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-523 Tape Leader and Trailer



SOT-523 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	30,000 pcs	203×203×195	120,000 pcs	438×438×220	