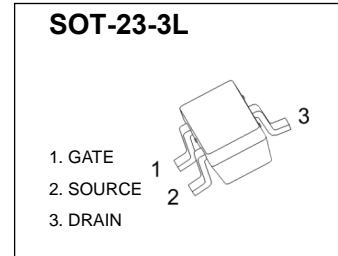




SOT-23-3L Plastic-Encapsulate MOSFETS

CJK3400 N-Channel Enhancement Mode Field Effect Transistor

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	35mΩ@ 10V	5.8A
	40mΩ@4.5V	
	52mΩ@2.5V	



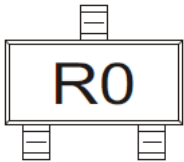
FEATURE

- High dense cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability

APPLICATION

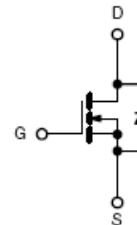
- Load/Power Switching
- Interfacing Switching

MARKING



R0=Device code

Equivalent Circuit



Maximum ratings ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	5.8	A
Drain Current-Pulsed ^①	I_{DM}	30	A
Power Dissipation ^④	P_D	1.25	W
Thermal Resistance from Junction to Ambient ^④	$R_{\theta JA}$	100	$^{\circ}C/W$
Operation Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^{\circ}C$

MOSFET ELECTRICAL CHARACTERISTICS

T_a=25 °C unless otherwise specified

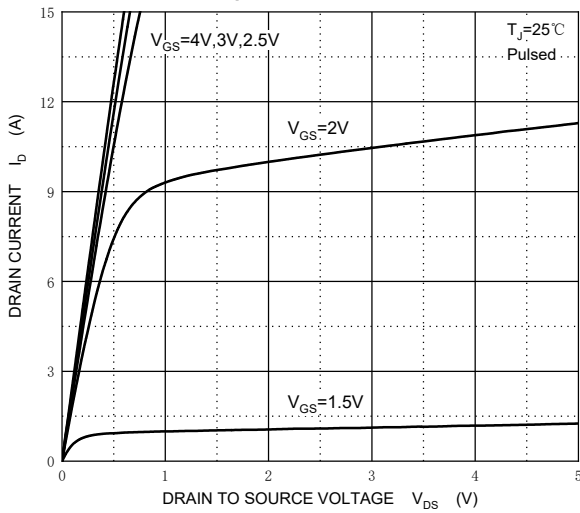
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain-source breakdown voltage	V _{(BR) DSS}	V _{GS} = 0V, I _D =250μA	30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =24V, V _{GS} = 0V, T _J =25 °C			1	μA
		V _{DS} =24V, V _{GS} = 0V, T _J =125 °C			1	mA
Gate-source leakage current	I _{GSS}	V _{GS} =±12V, V _{DS} = 0V			±100	nA
On characteristics						
Drain-source on-resistance ②	R _{DS(on)}	V _{GS} =10V, I _D =5.8A		25	35	mΩ
		V _{GS} =4.5V, I _D =5A		27	40	mΩ
		V _{GS} =2.5V, I _D =4A		33	52	mΩ
Forward transconductance	g _{FS}	V _{DS} =5V, I _D =5A	8			S
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.7	0.9	1.4	V
Dynamic Characteristics ③						
Input capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f =1MHz		820	1050	pF
Output capacitance	C _{oss}			99		pF
Reverse transfer capacitance	C _{rss}			77		pF
Gate resistance	R _g	V _{DS} =0V, V _{GS} =0V, f =1MHz		3.6		Ω
Switching Characteristics ③						
Turn-on delay time	t _{d(on)}	V _{GS} =10V, V _{DS} =15V, R _L =2.7Ω, R _{GEN} =3Ω		3.3	5	ns
Turn-on rise time	t _r			4.8	7	ns
Turn-off delay time	t _{d(off)}			26	40	ns
Turn-off fall time	t _f			4	6	ns
Total Gate Charge	Q _g	V _{DS} =10V, I _D =5A, V _{GS} =6V		9.5		nC
Gate-Source Charge	Q _{gs}			1.5		nC
Gate-Drain Charge	Q _{gd}			3		nC
Drain-source diode characteristics and maximum ratings						
Diode forward voltage ②	V _{SD}	I _S =1A, V _{GS} =0V			1	V
Continuous drain-source diode forward current	I _S				5.8	A
Pulsed drain-source diode forward current ^①	I _{SM}				30	A

Note :

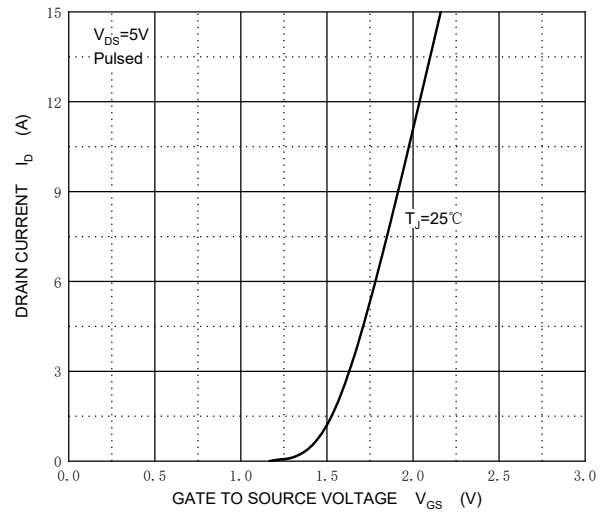
1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 2%.
3. Guaranteed by design, not subject to production testing.
4. The value of P_D&R_{θJA} is measured with the device mounted on 1 in² FR-4 board with 2oz. Copper, two sided, in a still air environment with T_a=25 °C.

Typical Characteristics

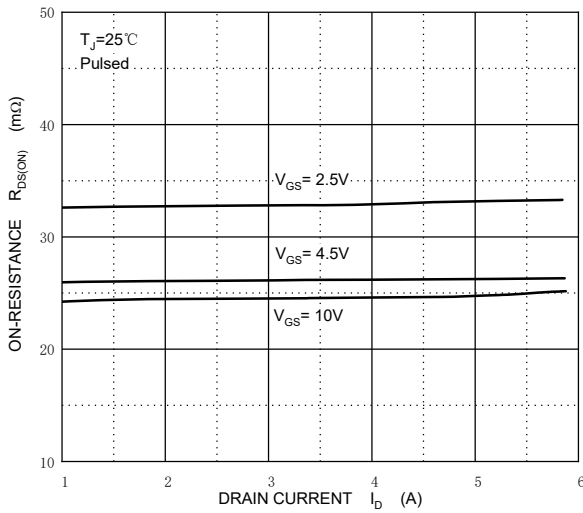
Output Characteristics



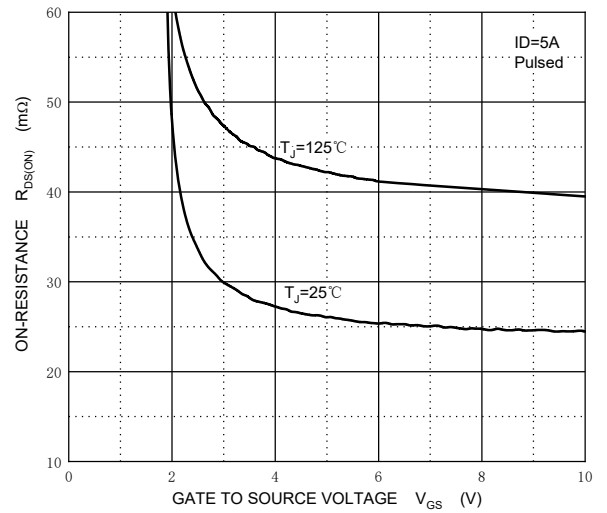
Transfer Characteristics



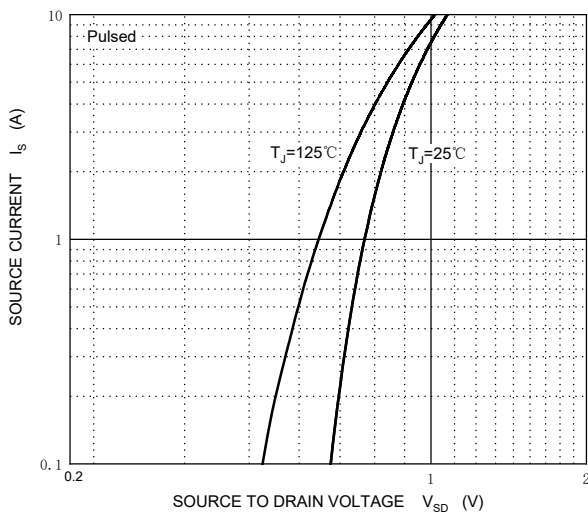
$R_{DS(ON)}$ — I_D



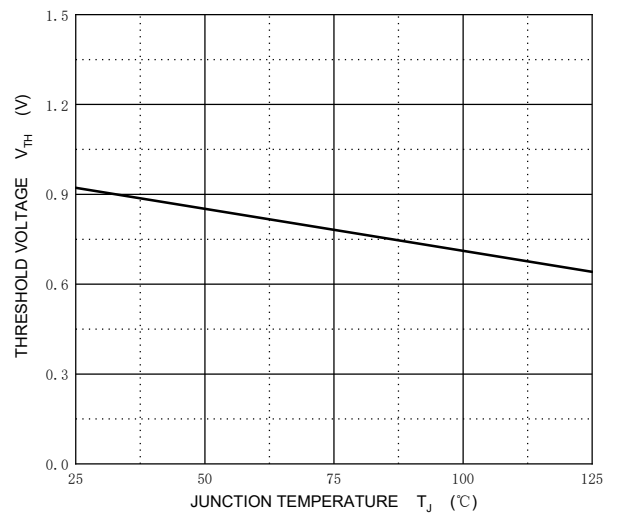
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

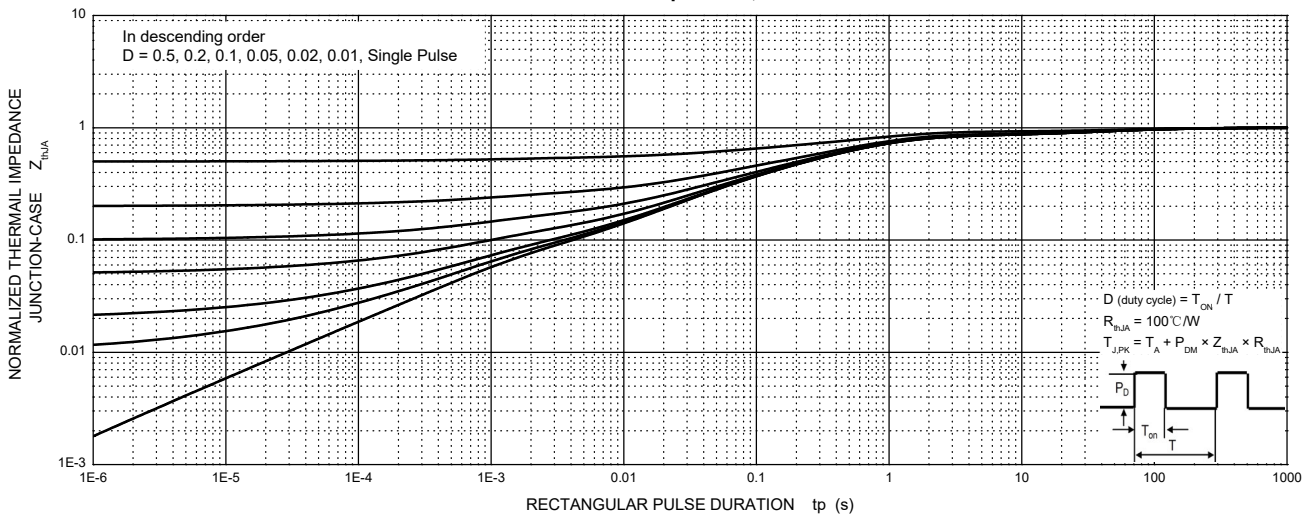


Threshold Voltage

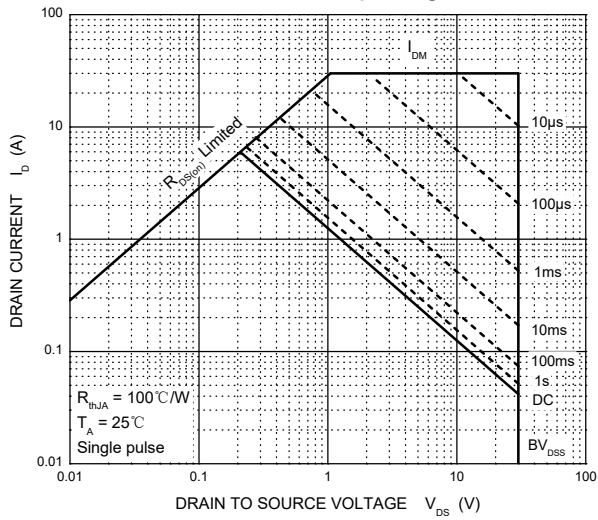


Typical Characteristics

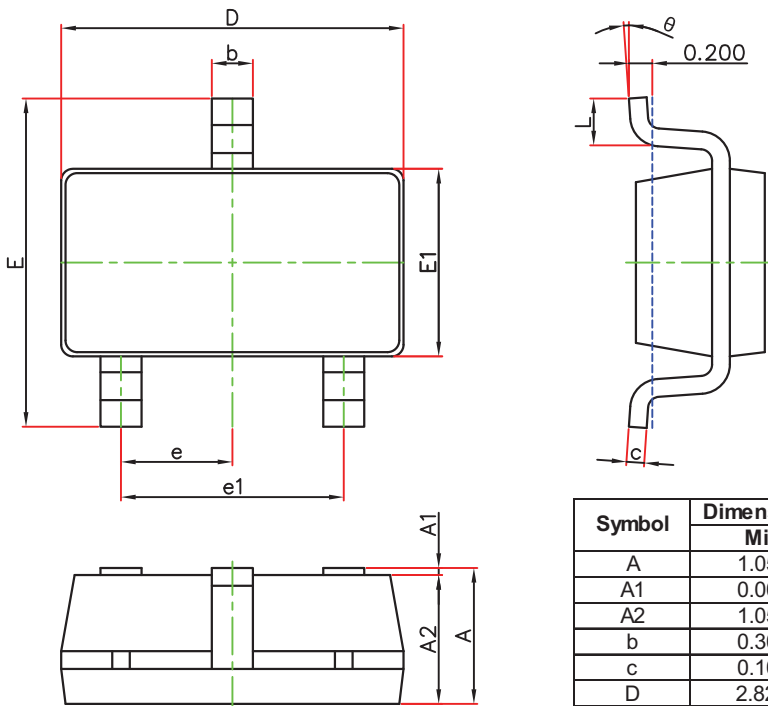
Transient Thermal Impedance, Junction-Case



Maximum Safe Operating Area

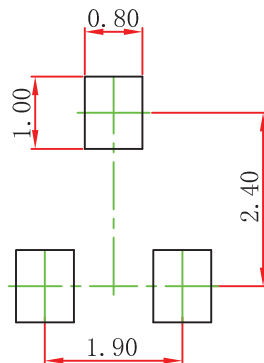


SOT-23-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

SOT-23-3L Suggested Pad Layout



Note:

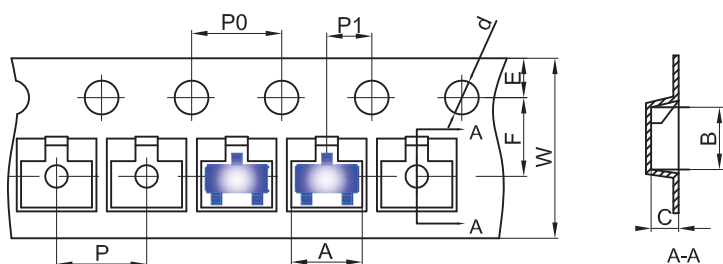
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

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

SOT-23-3L Tape and Reel

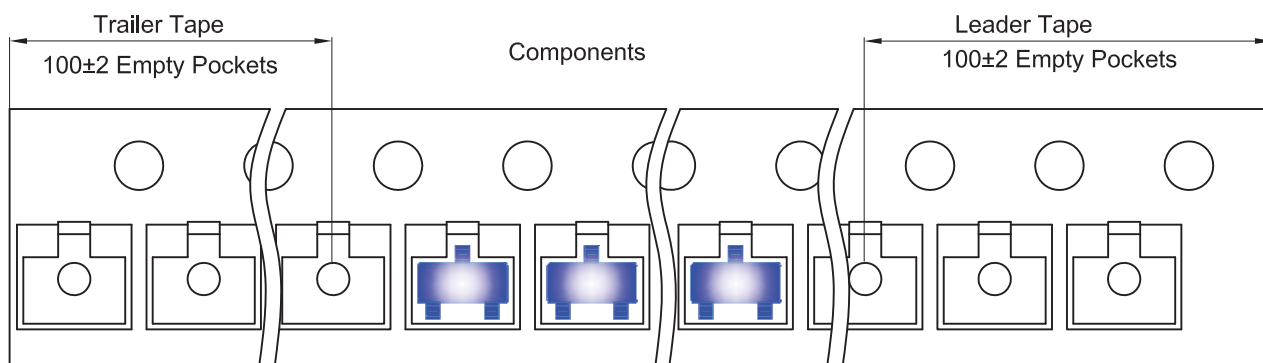
SOT-23-3L Embossed Carrier Tape



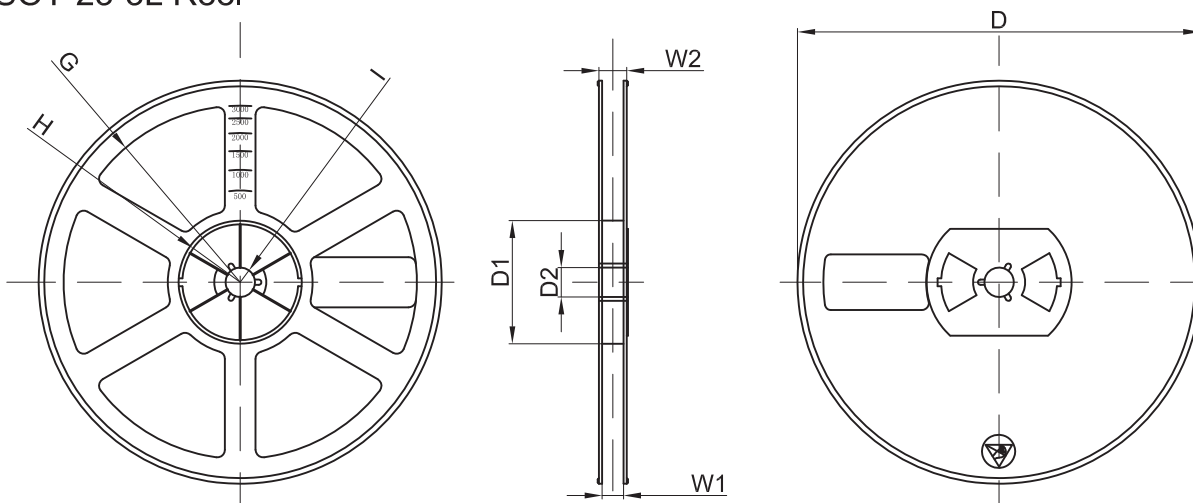
Packaging Description:
 SOT-23-3L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 18.0cm 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-23-3L	3.18	3.28	1.32	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23-3L Tape Leader and Trailer



SOT-23-3L Reel



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	9.50	13.10

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	