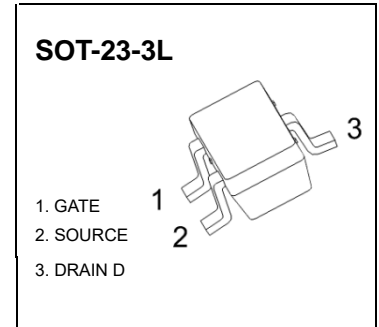


**SOT-23-3L Plastic-Encapsulate MOSFETS**

**CJK1508** N-Channel Enhancement Mode Field Effect Transistor

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
15V	7.7mΩ@10V	8A
	8.6mΩ@4.5V	
	9.1mΩ@3.8V	
	11.3mΩ@2.5V	



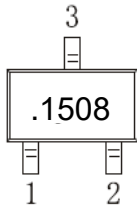
**FEATURE**

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

**APPLICATION**

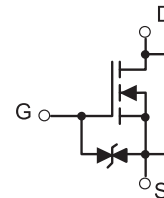
- Load/Power Switching
- Interfacing Switching

**MARKING**



Solid dot = Green molding compound device,  
if none, the normal device.

**Equivalent Circuit**



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	15	V
Gate-Source Voltage	$V_{GS}$	±12	V
Continuous Drain Current	$I_D$	8	A
Pulsed Drain Current	$I_{DM}^*$	30	A
Power Dissipation	$P_D$	500	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	249	$^{\circ}C/W$
Junction Temperature	$T_j$	150	$^{\circ}C$
Storage Temperature	$T_{stg}$	-55~+150	$^{\circ}C$
*Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	$T_L$	260	$^{\circ}C$

Repetitive rating : Pulse width limited by junction temperature.

## MOSFET ELECTRICAL CHARACTERISTICS

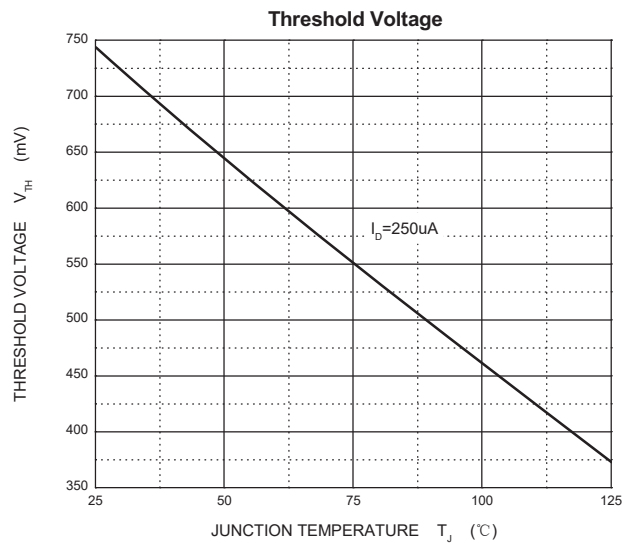
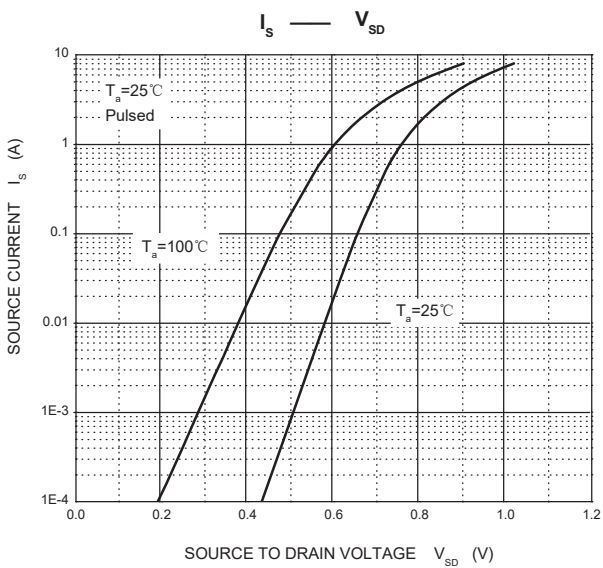
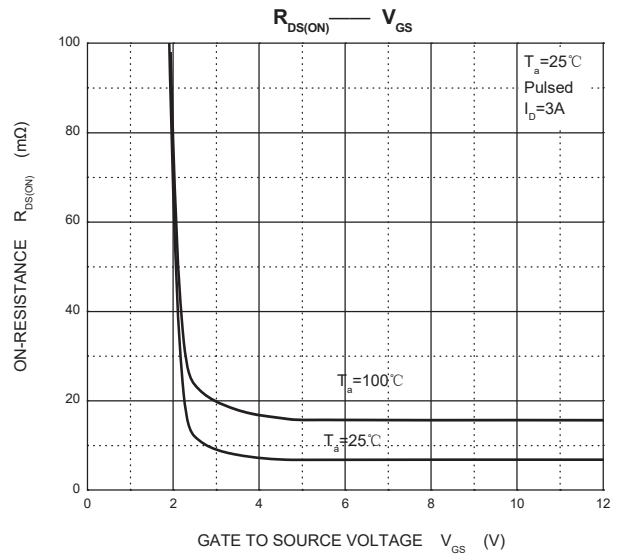
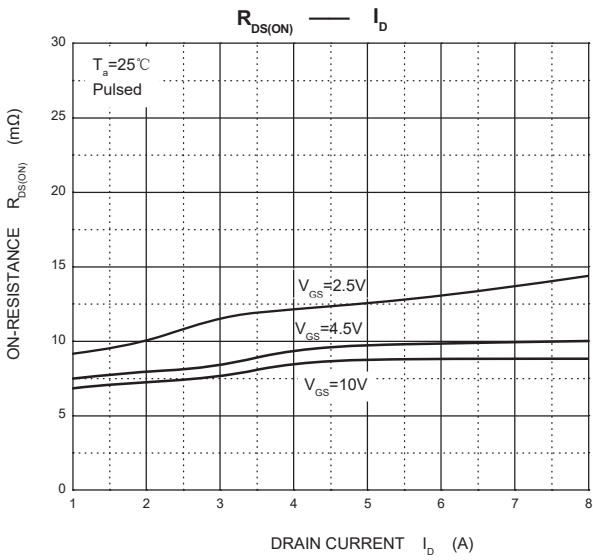
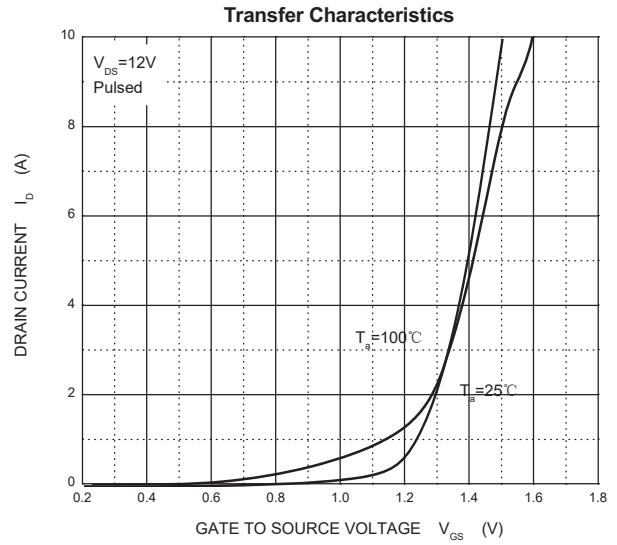
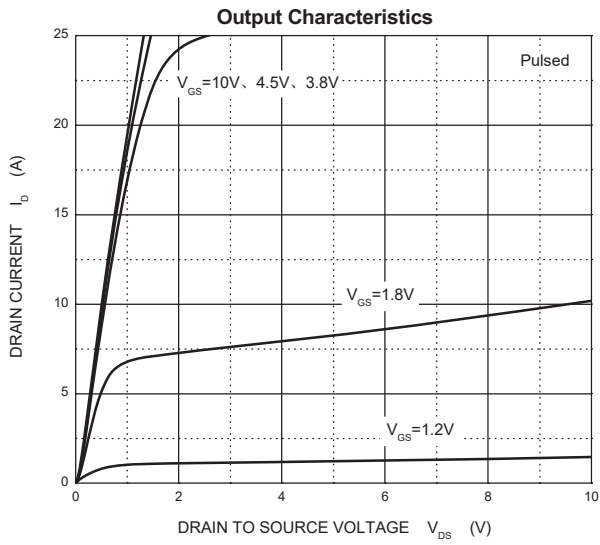
$T_a=25\text{ }^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>STATIC PARAMETERS</b>						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	15			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = 12V, V_{GS} = 0V$			1	$\mu A$
Gate-body leakage current	$I_{GSS}$	$V_{GS} = \pm 10V, V_{DS} = 0V$			$\pm 5$	$\mu A$
Gate threshold voltage (note 1)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	0.75	1	V
Drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 3A$		7.7	9.5	m $\Omega$
		$V_{GS} = 4.5V, I_D = 3A$		8.6	10.5	m $\Omega$
		$V_{GS} = 3.8V, I_D = 3A$		9.1	11.5	m $\Omega$
		$V_{GS} = 2.5V, I_D = 3A$		11.3	14.5	m $\Omega$
Forward tranconductance (note 1)	$g_{FS}$	$V_{DS} = 5V, I_D = 3A$		20		S
Diode forward voltage(note 1)	$V_{SD}$	$I_S = 1A, V_{GS} = 0V$			1	V
<b>DYNAMIC PARAMETERS (note 2)</b>						
Input Capacitance	$C_{iss}$	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$		1800		pF
Output Capacitance	$C_{oss}$			230		pF
Reverse Transfer Capacitance	$C_{rss}$			200		pF
Total gate charge	$Q_g$	$V_{DS} = 10V, V_{GS} = 4.5V, I_D = 3A$		17.9		nC
Gate-source charge	$Q_{gs}$			1.5		nC
Gate-drain charge	$Q_{gd}$			4.7		nC
<b>SWITCHING PARAMETERS (note 2)</b>						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 10V, V_{DS} = 10V,$ $R_L = 1.2\Omega, R_{GEN} = 3\Omega$		2.5		ns
Turn-on rise time	$t_r$			7.2		ns
Turn-off delay time	$t_{d(off)}$			49		ns
Turn-off fall time	$t_f$			10.8		ns

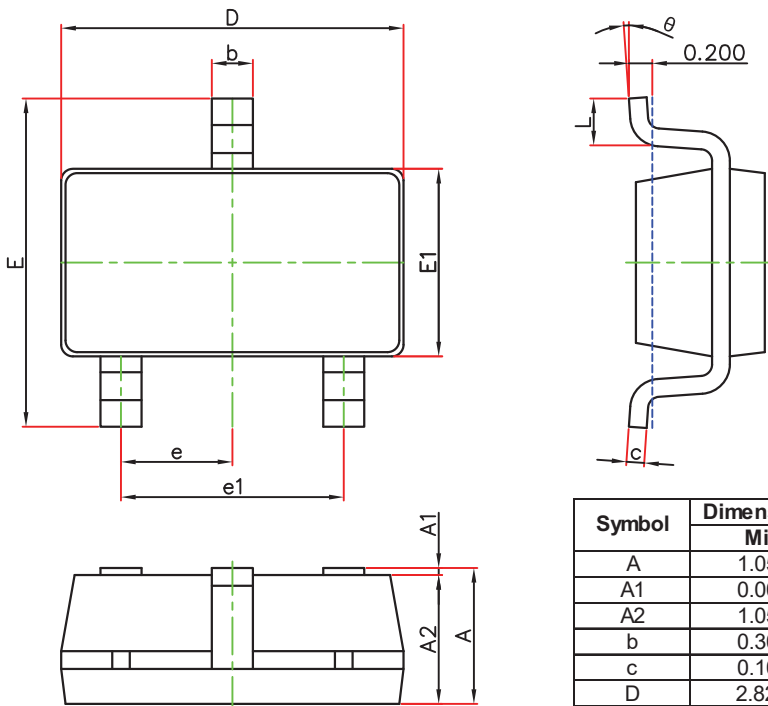
**Notes :**

1. Pulse Test : Pulse width  $\leq 300\mu s$ , duty cycle  $\leq 0.5\%$ .
2. Guaranteed by design, not subject to production testing.

# Typical Characteristics

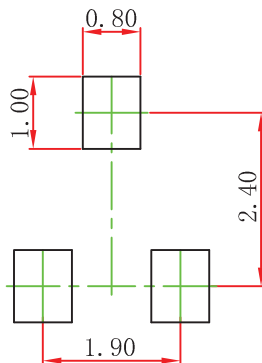


## SOT-23-3L Package Outline Dimensions



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
K	0°	8°	0°	8°

## SOT-23-3L Suggested Pad Layout

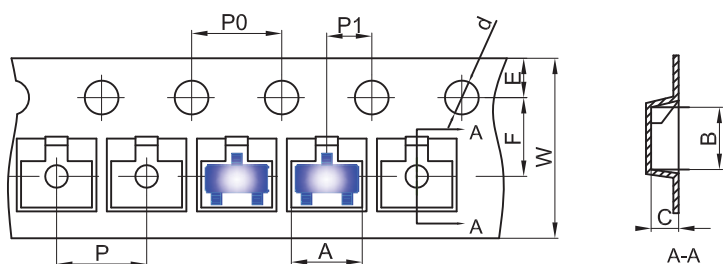


**Note:**

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

# SOT-23-3L Tape and Reel

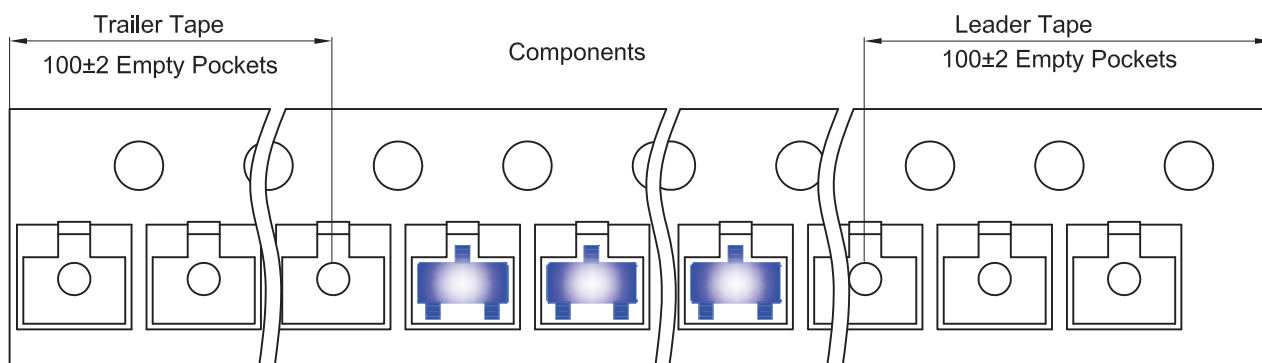
## SOT-23-3L Embossed Carrier Tape



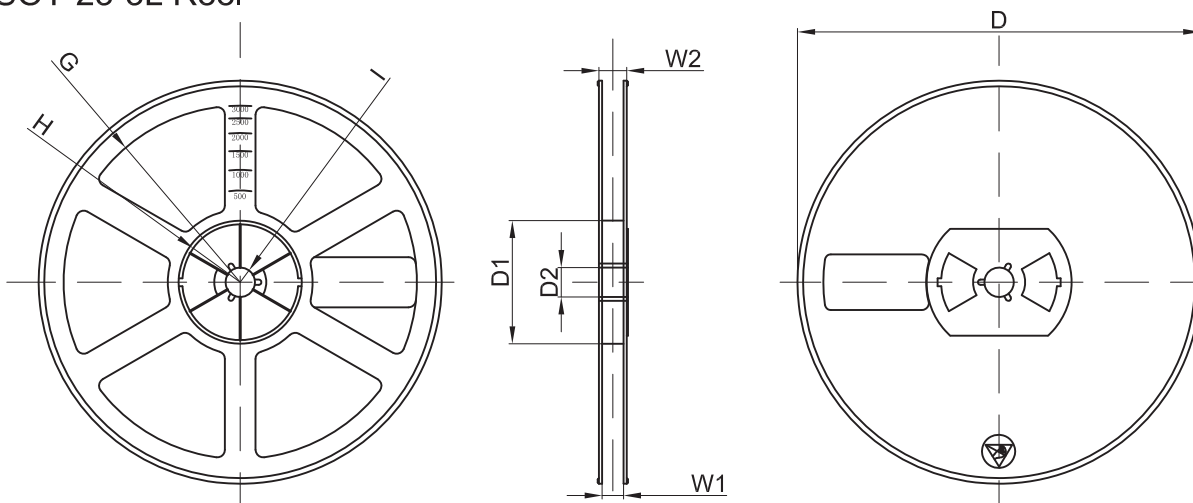
**Packaging Description:**  
 SOT-23-3L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed 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	

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