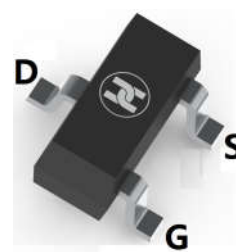
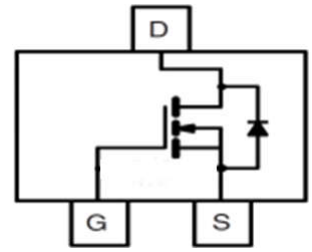


**N-CHANNEL MOSFET**
**FEATURES**

- High density cell design for low  $R_{DS(ON)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability

**MECHANICAL DATA**

- Case: SOT-523
- Case material: Molded plastic. UL flammability 94V-0
- Terminals: Solderable per MIL-STD-202, Method 208
- Weight:0.002grams(approximate)


**SOT-523**

**Equivalent circuit**

Marking: K72

**MAXIMUM RATINGS** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

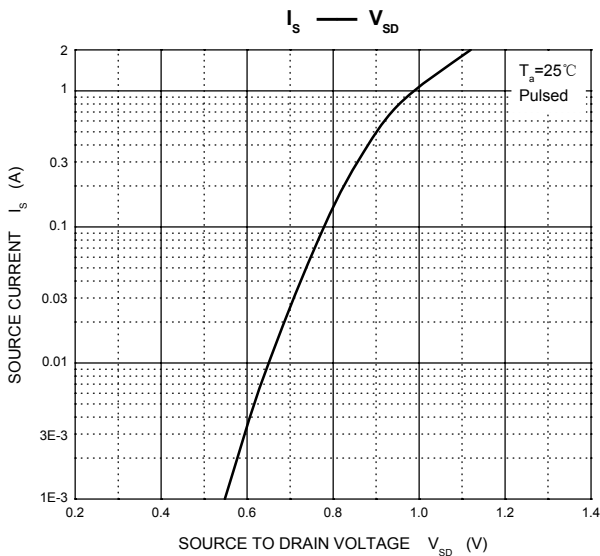
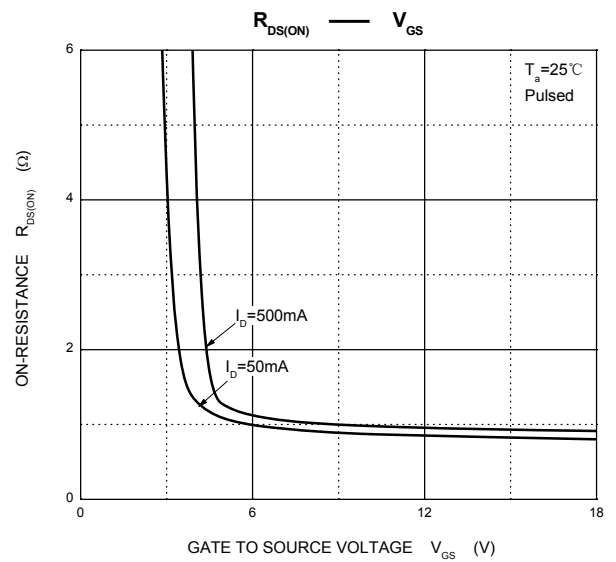
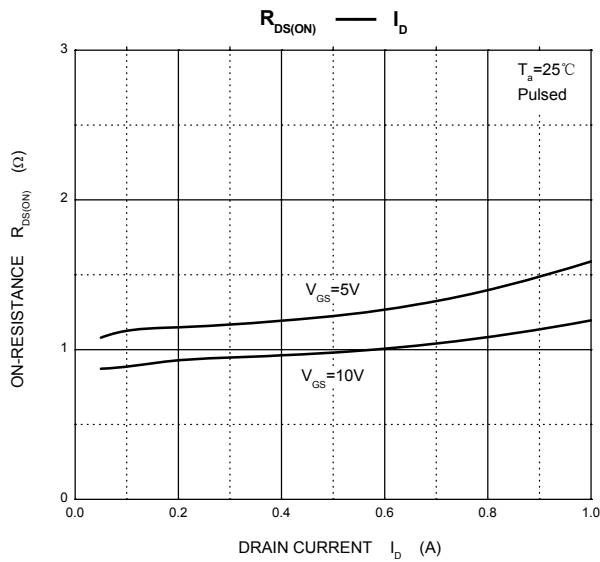
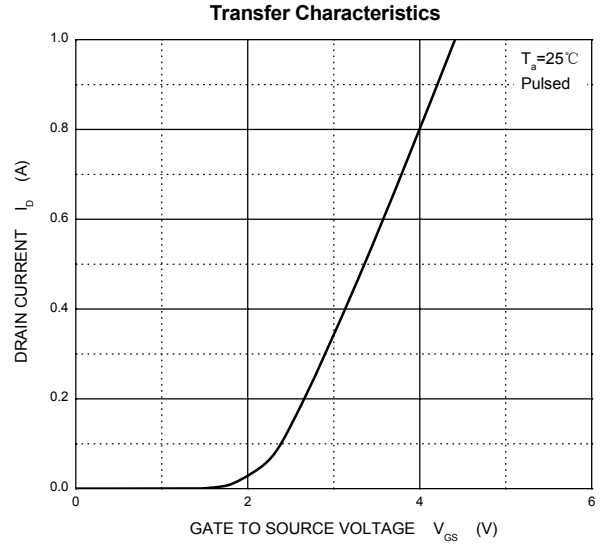
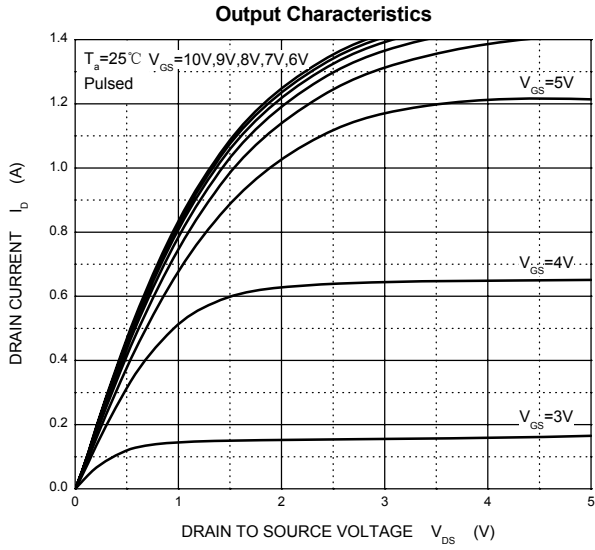
Parameter	Symbol	Value	Unit
Drain-source voltage	$V_{DS}$	60	V
Gate-source voltage	$V_{GS}$	$\pm 20$	V
Drain current	$I_D$	115	mA
Power dissipation	$P_D$	150	mW
Thermal resistance from junction to ambient	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Junction temperature	$T_J$	150	$^{\circ}\text{C}$
Storage temperature	$T_{STG}$	-55~+150	$^{\circ}\text{C}$

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Min	Max	Unit	Conditions
Drain-source breakdown voltage	$V_{(BR)DSS}$	60		V	$V_{GS}=0\text{V}, I_D=250\mu\text{A}$
Gate-threshold voltage	$V_{th(GS)}$	1	2.5		$V_{DS}=V_{GS}, I_D=250\mu\text{A}$
Gate-body leakage	$I_{GSS}$		$\pm 80$	nA	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$
Zero gate voltage drain current	$I_{DSS}$		80	nA	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$
On-state drain current	$I_{D(ON)}$	500		mA	$V_{GS}=10\text{V}, V_{DS}=7\text{V}$
Drain-source on-resistance	$R_{DS(on)}$		5	$\Omega$	$V_{GS}=10\text{V}, I_D=500\text{mA}$
			7		$V_{GS}=5\text{V}, I_D=50\text{mA}$
Forward trans conductance	$g_{fs}$	80		ms	$V_{DS}=10\text{V}, I_D=200\text{mA}$
Drain-source on-voltage	$V_{DS(on)}$		3.75	V	$V_{GS}=10\text{V}, I_D=500\text{mA}$
			0.375		$V_{GS}=5\text{V}, I_D=50\text{mA}$
Diode forward voltage	$V_{SD}$	0.55	1.2	V	$I_S=115\text{mA}, V_{GS}=0\text{V}$
Input capacitance	$C_{iss}$		50	pF	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$
Output capacitance	$C_{oss}$		25		
Reverse transfer capacitance	$C_{rss}$		5		
Turn-on time	$t_{d(on)}$		20	ns	$V_{DD}=25\text{V}, R_L=50\Omega$ $I_D=500\text{mA}, V_{GEN}=10\text{V}$ $R_G=25\Omega$
Turn-off time	$t_{d(off)}$		40		

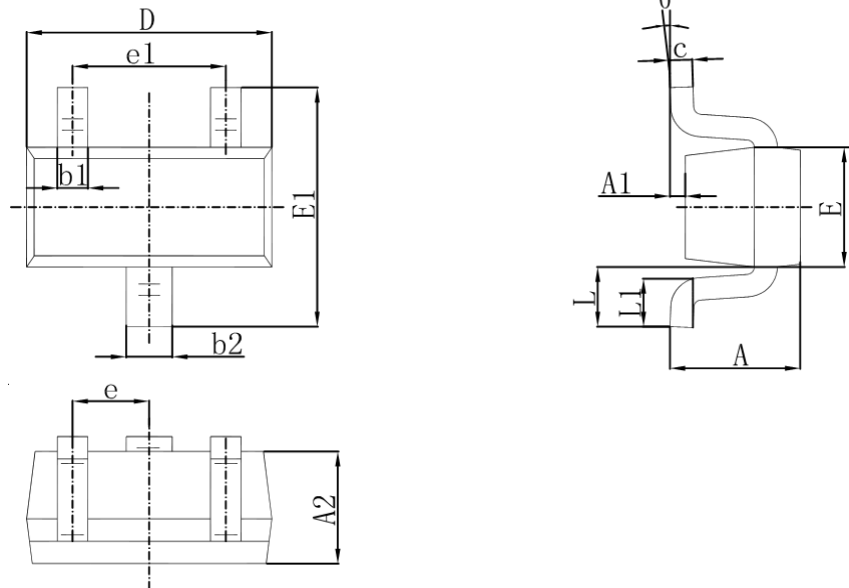
**N-CHANNEL MOSFET**

**TYPICAL CHARACTERISTICS**



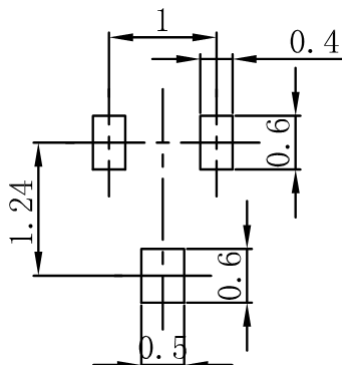
N-CHANNEL MOSFET

SOT-523 PACKAGE OUTLINE DIMENSION



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	0.069 069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.350	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



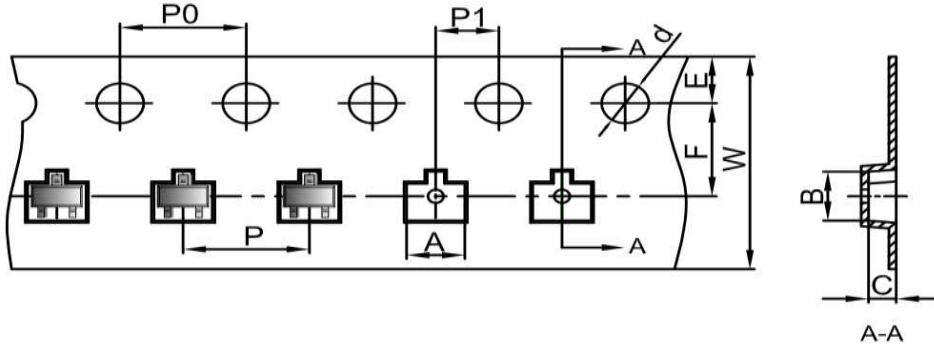
**Note:**

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

**N-CHANNEL MOSFET**

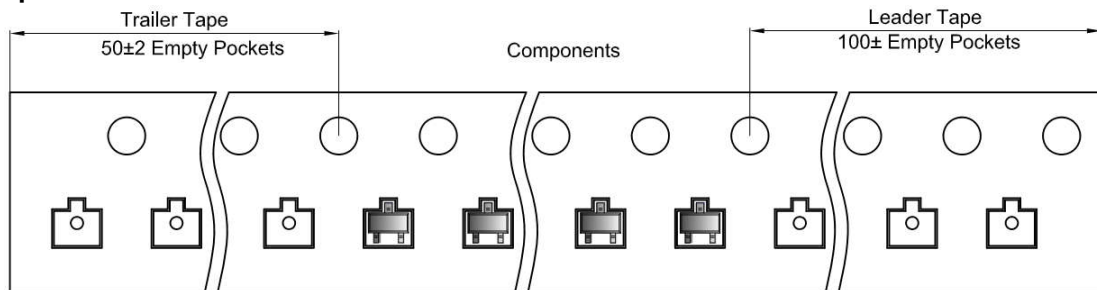
**SOT-523 TAPE AND REEL**

**SOT-523 Embossed Carrier Tape**

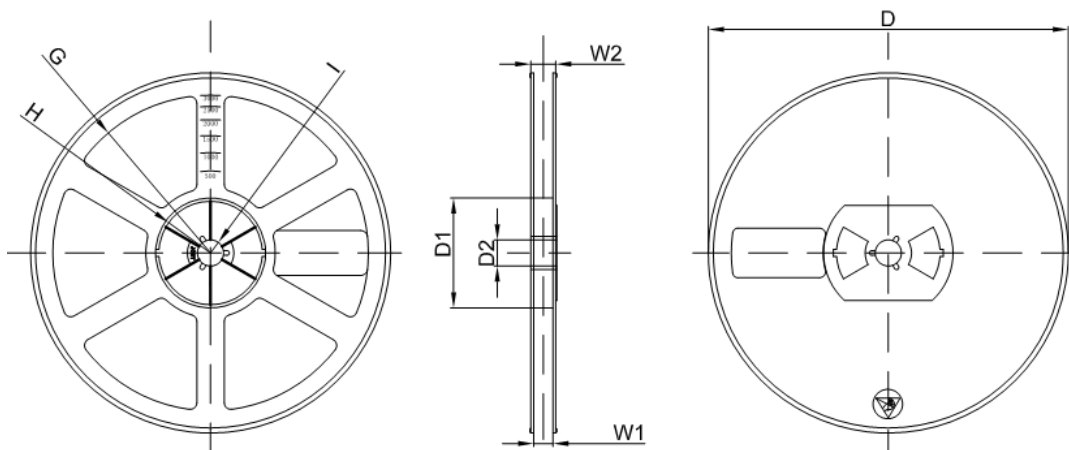


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-523	1.85	1.85	0.875	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

**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	54.40	13.00	R78	R25.60	R6.50	9.50	12.30