

150 mW SOT-523 SURFACE MOUNT

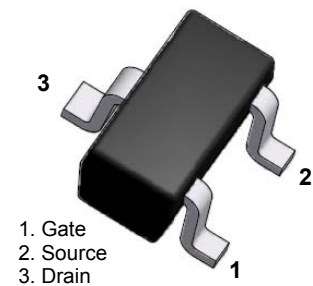
Plastic Package

N-Channel MOSFET

Absolute Maximum Ratings T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{DS}	Drain-Source Voltage	30	V
V _{GS}	Continuous Gate-Source Voltage	±20V	V
I _D	Continuous Drain Current	100	mA
P _D	Power Dissipation	150	mW
R _{θJA}	Thermal Resistance from Junction to Ambient	833	°C /W
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _J	Operating Junction Temperature	+150	°C

These ratings are limiting values above which the serviceability of the device may be impaired.

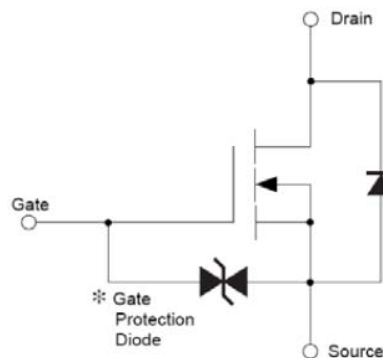


SOT-523

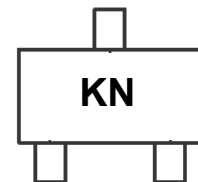
Specification Features:

- Low On-resistance
- Fast Switching Speed
- Low Voltage Drive Makes This Device Ideal for Portable Equipment
- Easily Designed Drive Circuits
- Easy to Parallel
- RoHS Compliant & Green EMC
- Matte Tin(Sn) Lead Finish
- Weight: approx. 0.002g

Electrical Symbol:



Device Marking Code:



Electrical Characteristics (T_A = 25°C unless otherwise noted)

Off Characteristics

Symbol	Parameter	Test Condition	Limits			Unit
			Min	Typ	Max	
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =10uA	30			Volts
I _{GSS}	Gate-Body Leakage	V _{DS} =0V, V _{GS} =±20V			±1	uA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =30V, V _{GS} =0V			1	μA

On Characteristics

Symbol	Parameter	Test Condition	Limits			Unit
			Min	Typ	Max	
V _{th(GS)}	Gate-Threshold Voltage	V _{DS} = 3V, I _D =100uA	0.8		1.5	Volts
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =4V, I _D =10mA			8	Ω
		V _{GS} =2.5V, I _D =1mA			13	Ω
g _{fs}	Forward Trans Conductance	V _{DS} =3V, I _D =10mA	20			ms
V _{SD}	Drain-Source Diode Forward Voltage	I _S =115mA, V _{GS} =0V			1.2	V

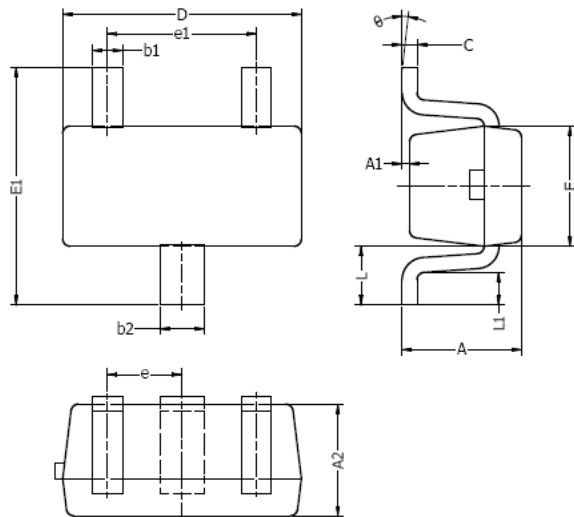
Dynamic Characteristics

Symbol	Parameter	Test Condition	Limits			Unit
			Min	Typ	Max	
C _{iss}	Input Capacitance	V _{DS} = 5V V _{GS} = 0V f = 1.0MHz		13		pF
C _{oss}	Output Capacitance			9		pF
C _{rss}	Reverse Transfer Capacitance			4		pF

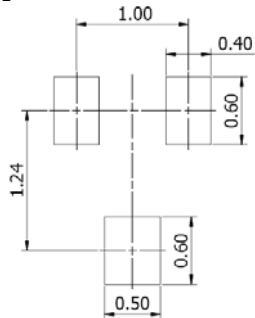
Switching Characteristics

Symbol	Parameter	Test Condition	Limits			Unit
			Min	Typ	Max	
t _{D(on)}	Turn-on Time	V _{DD} =5V, R _L =500Ω, I _D =10mA, V _{GS} =5V, R _G = 10Ω		15		nS
t _{D(off)}	Turn-off Time			80		nS

SOT-523 Package Outline



Typical Soldering Pattern:



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.70	0.90	0.028	0.035
A1	0.00	0.10	0.000	0.004
A2	0.70	0.80	0.028	0.031
b1	0.15	0.25	0.006	0.010
b2	0.25	0.35	0.010	0.014
c	0.10	0.20	0.004	0.008
D	1.50	1.70	0.059	0.067
E	0.70	0.90	0.028	0.035
E1	1.45	1.75	0.057	0.069
e	0.50 TYP.		0.020 TYP.	
e1	0.90	1.10	0.035	0.043
L	0.40 REF.		0.016 REF.	
L1	0.10	0.30	0.004	0.012
θ	0°	8°	0°	8°

NOTES:

1. Above package outline conforms to JEITA EAIJ ED-7500A SC-75A.
2. Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.