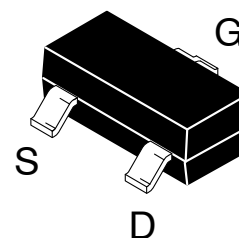


Features

- This Device is Designed for Low Level Analog Switching Applications, Sample and Hold Circuits and Chopper Stabilized Amplifiers.
- Sourced from Process 51.
- This is a Pb-Free and a Halide Free Device



SOT-23

ABSOLUTE MAXIMUM RATINGS (Note 1), (Note 2) ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{DG}	Drain–Gate Voltage	40	V
V_{GS}	Gate–Source Voltage	–40	V
I_{GF}	Forward Gate Current	50	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	–55 to + 150	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

These ratings are based on a maximum junction temperature of 150°C .

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Characteristic	Max	Unit
P_D	Total Device Dissipation	350	mW
	Derate above 25°C	2.8	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient (Note 3)	357	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Test Conditions	Min	Max	Unit
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OFF CHARACTERISTICS

$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	$I_G = 1\ \mu\text{A}$, $V_{DS} = 0$	-40	-	V
$V_{GS(off)}$	Gate-Source Cut-Off Voltage	$V_{DS} = 20\ \text{V}$, $I_D = 1\ \text{nA}$	-1.0	-5.0	V
I_{DGO}	Drain-Gate Leakage Current	$V_{DG} = 20\ \text{V}$, $I_S = 0$ $V_{DG} = 20\ \text{V}$, $I_S = 0$, $T_A = 150^\circ\text{C}$	-	-200 -400	pA nA
$I_{D(off)}$	Drain Cutoff Leakage Current	$V_{DS} = 20\ \text{V}$, $V_{GS} = -6\ \text{V}$ $V_{DS} = 20\ \text{V}$, $V_{GS} = -6\ \text{V}$, $T_A = 150^\circ\text{C}$	-	200 400	pA nA

ON CHARACTERISTICS

I_{DSS}	Zero-Gate Voltage Drain Current (Note 4)	$V_{DS} = 20\ \text{V}$, $V_{GS} = 0$	8	-	mA
$V_{DS(on)}$	Drain-Source On Voltage	$I_D = 2.5\ \text{mA}$, $V_{GS} = 0$	-	0.2	V
$r_{DS(on)}$	Drain-Source On Resistance	$I_D = 1\ \text{mA}$, $V_{GS} = 0$	-	80	Ω

SMALL SIGNAL CHARACTERISTICS

$r_{DS(on)}$	Drain-Source On Resistance	$V_{DS} = V_{GS} = 0$, $f = 1\ \text{kHz}$	-	80	Ω
C_{iss}	Input Capacitance	$V_{DS} = 20\ \text{V}$, $V_{GS} = 0\ \text{V}$, $f = 1.0\ \text{MHz}$	-	16	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = -20\ \text{V}$, $f = 1.0\ \text{MHz}$	-	5	pF

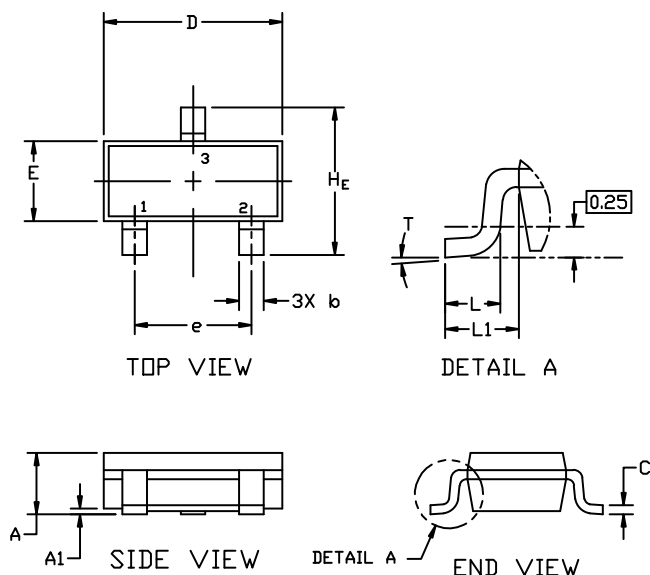
SWITCHING CHARACTERISTICS

t_{On}	Turn-On Time	$I_{D(on)} = 3.0\ \text{mA}$	-	60	ns
t_{Off}	Turn-Off Time	$V_{GS(off)} = 3.0\ \text{V}$	-	80	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

4. Pulse Test: Pulse Width $\leq 300\ \mu\text{s}$, Duty Cycle $\leq 1\%$.

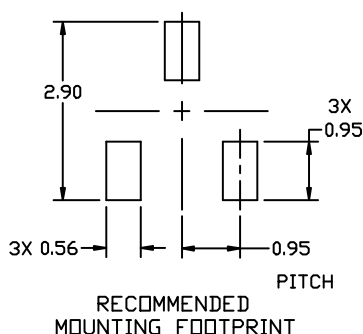
SOT-23 (TO-236)



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M,1994.
2. CONTROLLING DIMENSION: MILLIMETERS
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF THE BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

DIM	MILLIMETERS			INCHES		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.89	1.00	1.11	0.035	0.039	0.044
A1	0.01	0.06	0.10	0.000	0.002	0.004
b	0.37	0.44	0.50	0.015	0.017	0.020
c	0.08	0.14	0.20	0.003	0.006	0.008
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.080
L	0.30	0.43	0.55	0.012	0.017	0.022
L1	0.35	0.54	0.69	0.014	0.021	0.027
H _E	2.10	2.40	2.64	0.083	0.094	0.104
T	0°	---	10°	0°	---	10°



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