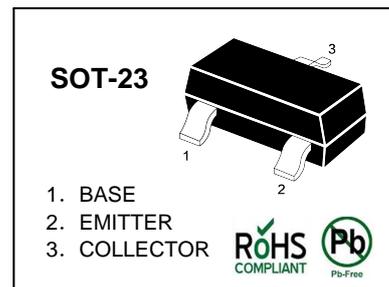


NPN Silicon Epitaxial Planar Transistor

for low noise, high gain amplifier at VHF~UHF band.

The transistor is subdivided into two groups O and Y, according to its DC current gain.



Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	20	V
Collector Emitter Voltage	V_{CEO}	12	V
Emitter Base Voltage	V_{EBO}	3	V
Base Current	I_B	40	mA
Collector Current	I_C	80	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_s	-55 to +125	$^\circ\text{C}$

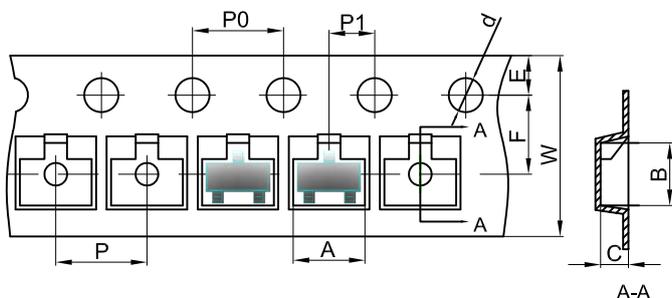
Characteristics at $T_{amb}=25\text{ }^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE}=10\text{V}$, $I_C=20\text{mA}$ Current Gain Group O Y	h_{FE}	80	-	160	-
	h_{FE}	120	-	240	-
Collector Cutoff Current at $V_{CB}=10\text{V}$	I_{CBO}	-	-	1	μA
Emitter Cutoff Current at $V_{EB}=1.0\text{V}$	I_{EBO}	-	-	1	μA
Transition Frequency at $V_{CE}=10\text{V}$, $I_C=20\text{mA}$	f_T	5	7	-	GHz
Reverse Transfer Capacitance at $V_{CB}=10\text{V}$, $f=1\text{MHz}$ ¹⁾	C_{re}	-	0.65	1.15	pF
Output Capacitance at $V_{CB}=10\text{V}$, $f=1\text{MHz}$ ¹⁾	C_{ob}	-	1	-	pF
Insertion Gain at $V_{CE}=10\text{V}$, $I_C=20\text{mA}$, $f=500\text{MHz}$	$ S_{21e} ^2_{1}$	-	16.5	-	dB
Insertion Gain at $V_{CE}=10\text{V}$, $I_C=20\text{mA}$, $f=1.0\text{GHz}$	$ S_{21e} ^2_{2}$	7.5	11	-	dB
Noise Figure at $V_{CE}=10\text{V}$, $I_C=5\text{mA}$, $f=500\text{MHz}$	NF_1	-	1	-	dB
Noise Figure at $V_{CE}=10\text{V}$, $I_C=5\text{mA}$, $f=1.0\text{GHz}$	NF_2	-	1.1	2	dB

⁽¹⁾ C_{re} is measured by 3 terminal method with capacitance bridge.

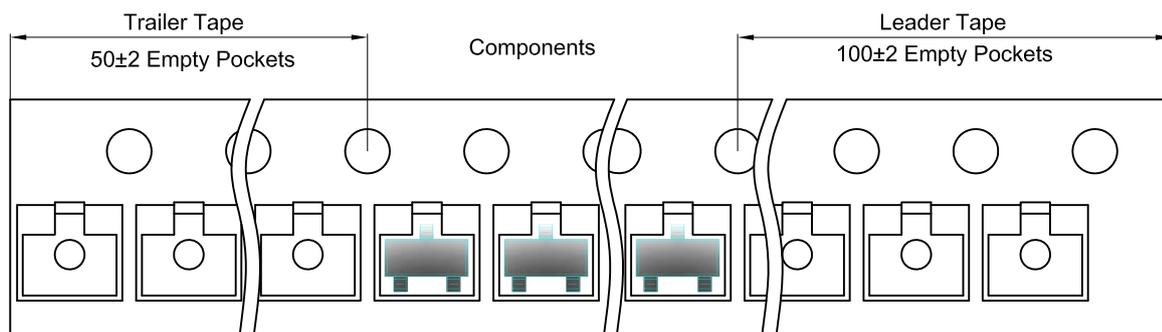
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

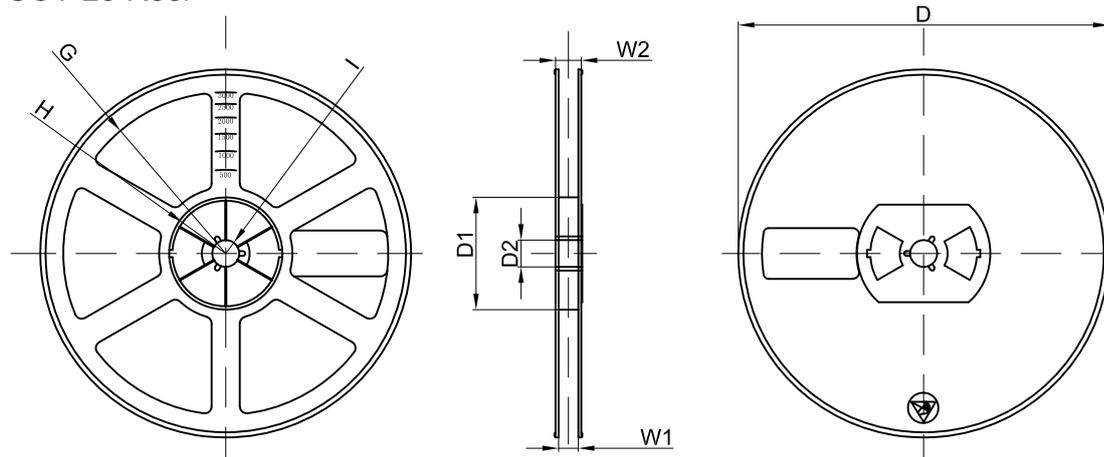


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer



SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	



SYMBOL	MILLIMETER	
	MIN	MAX
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950 TYP	
e1	1.800	2.000
L	0.550 REF	
L1	0.300	0.500
θ	0°	8°

DISCLAIMER

JHG PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with JHG products. You are solely responsible for

- (1) selecting the appropriate JHG products for your application;
- (2) designing, validating and testing your application;
- (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements.

These resources are subject to change without notice. JHG grants you permission to use these resources only for development of an application that uses the JHG products described in the resource. Other reproduction and display of these resources are prohibited. No license is granted to any other JHG intellectual property right or to any third party intellectual property right. JHG disclaims responsibility for, and you will fully indemnify JHG and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.