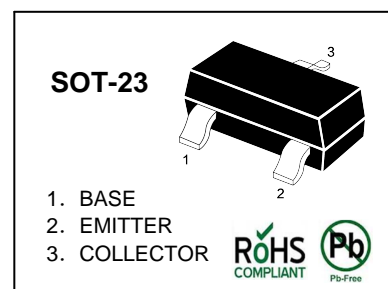


NPN Silicon Epitaxial Planar Switching Transistor



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

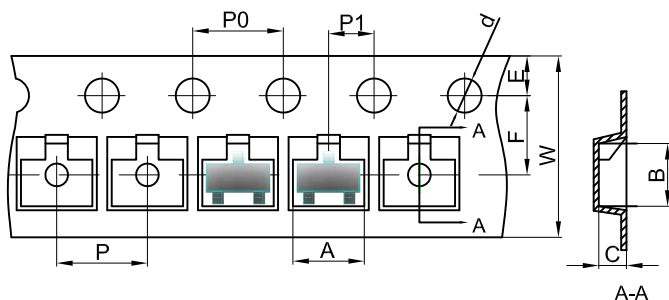
	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CES}	40	V
Collector Emitter Voltage	V_{CEO}	15	V
Emitter Base Voltage	V_{EBO}	4.5	V
Collector Current	I_C	500	mA
Power Dissipation	P_{tot}	200	mW
Thermal Resistance Form junction to ambient in free air	R_{thj-a}	500	K/W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_s	-55 to +150	$^\circ\text{C}$

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

	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain					
at $V_{CE}=1\text{V}$, $I_C=10\text{mA}$	h_{FE}	40	-	120	-
at $V_{CE}=1\text{V}$, $I_C=10\text{mA}$, $T_a = -55\text{ }^{\circ}\text{C}$	h_{FE}	20	-	-	-
at $V_{CE}=2\text{V}$, $I_C=100\text{mA}$	h_{FE}	20	-	-	-
Small Signal Current Gain					
at $V_{CE}=10\text{V}$, $I_C=1\text{mA}$, $f=100\text{MHz}$	h_{fe}	5	-	-	-
Collector Cutoff Current					
at $V_{CB}=20\text{V}$	I_{CBO}	-	-	0.4	μA
at $V_{CB}=20\text{V}$, $T_j=125\text{ }^{\circ}\text{C}$		-	-	30	mA
Collector Saturation Voltage					
at $I_C=10\text{mA}$, $I_B=1\text{mA}$	$V_{CE(sat)}$	-	-	0.25	V
Base Saturation Voltage					
at $I_C=10\text{mA}$, $I_B=1\text{mA}$	$V_{BE(sat)}$	0.7	-	0.85	V
Collector Emitter Breakdown Voltage					
at $I_C=10\text{mA}$	$V_{(BR)CEO}$	15	-	-	V
Collector Emitter Breakdown Voltage					
at $I_C=10\text{mA}$	$V_{(BR)CES}$	40	-	-	V
Collector Base Breakdown Voltage					
at $I_C=10\text{mA}$	$V_{(BR)CBO}$	40	-	-	V
Emitter Base Breakdown Voltage					
at $I_E=10\text{mA}$	$V_{(BR)EBO}$	4.5	-	-	V
Output Capacitance					
at $V_{CB}=5\text{V}$, $f=1\text{MHz}$	C_{ob}	-	-	4	pF
Storage Time					
at $I_{Con}=I_{Bon} = -I_{Boff}=10\text{mA}$	t_s	-	5	13	ns
Turn-on Time					
at $I_C=10\text{mA}$, $I_{Bon}=3\text{mA}$, $V_{CC}=3\text{V}$	t_{on}	-	8	12	ns
Turn-off Time					
at $I_C=10\text{mA}$, $I_{Bon}=3\text{mA}$, $I_{Boff}=1.5\text{mA}$, $V_{CC}=3\text{V}$	t_{off}	-	10	18	ns

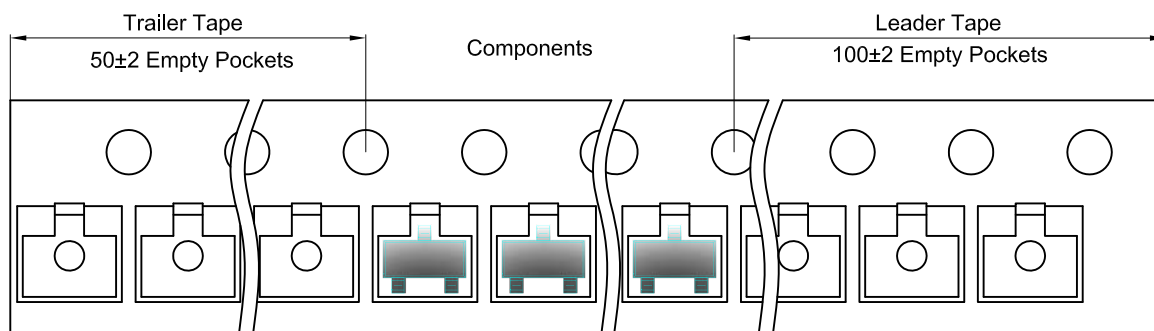
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

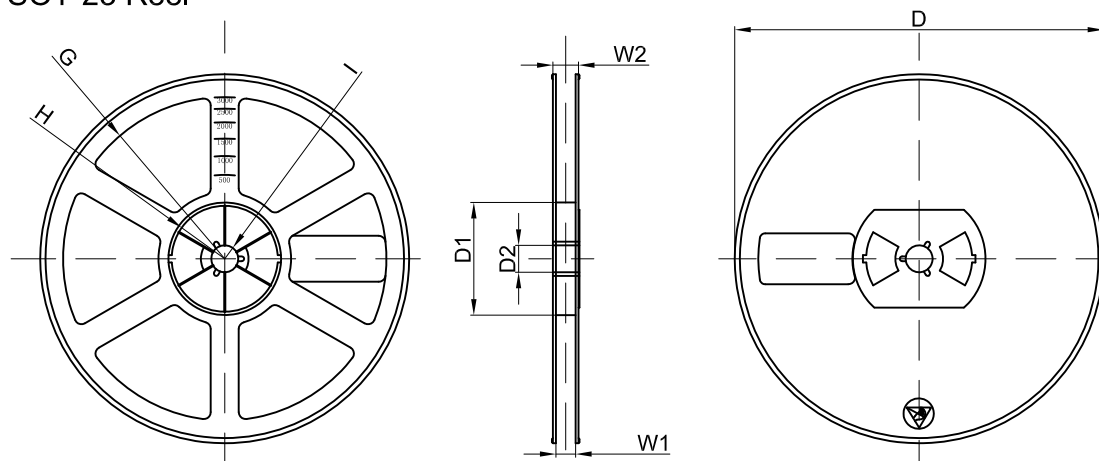


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer

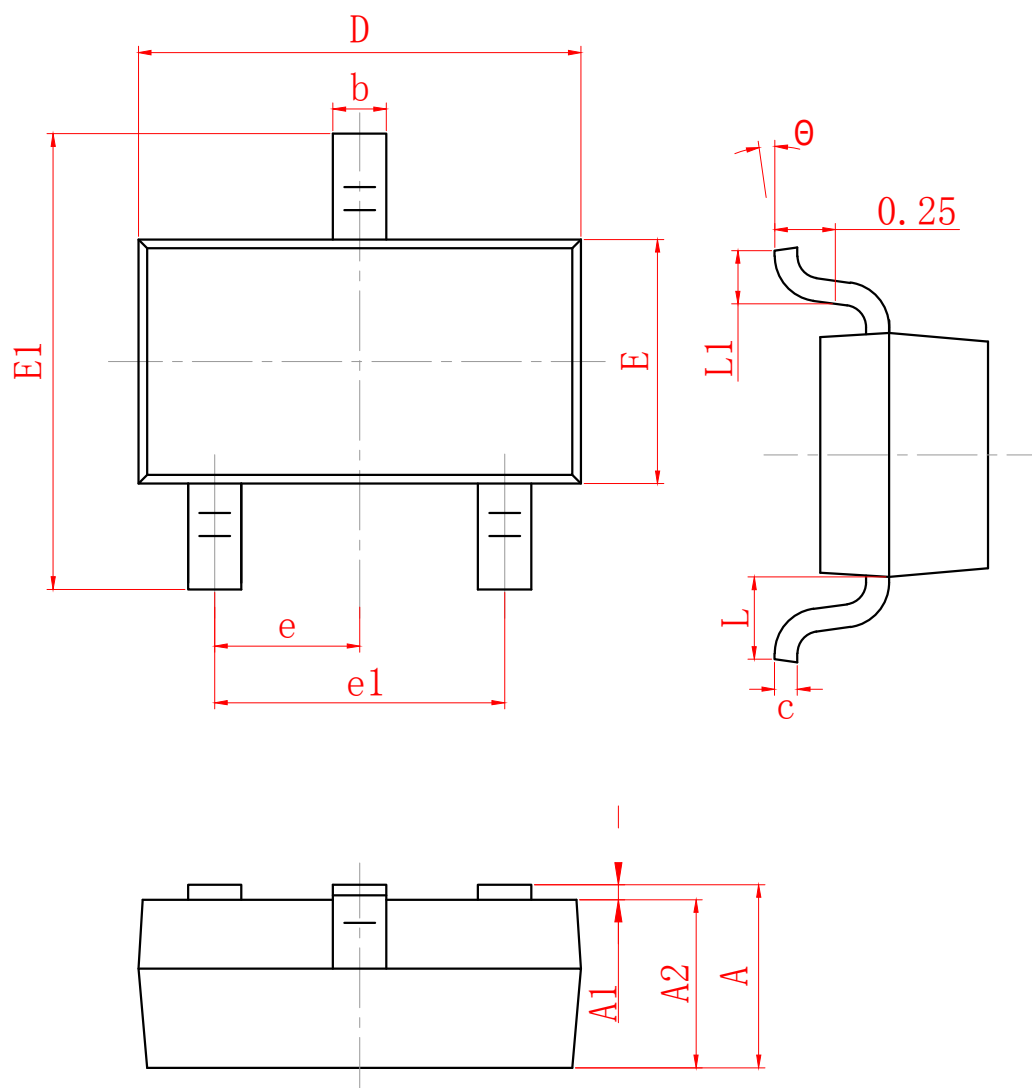


SOT-23 Reel



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.