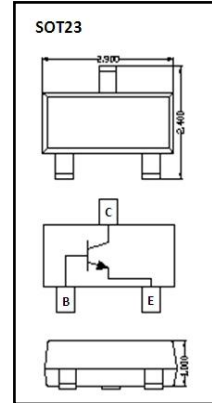


DATA SHEET

S9013

- ◇ Capable of 225mWatts of Power Dissipation
- ◇ Operating and Storage Junction Temperatures: -55°C to 150°C
- ◇ Surface Mount SOT-23 Package
- ◇ RoHS compliant / Green EMC

Device Marking Code	
S9013	J3



Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	40	V
V _{CE0}	Collector-Emitter Voltage	25	V
V _{EB0}	Emitter-Base Voltage	5	V
I _c	Collector Current	500	mA
P _c	Collector Power Dissipation	300	mW
R _{θJA}	Thermal Resistance From Junction To Ambient	416	°C/W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C

Electrical Characteristics @ 25° C Unless Otherwise Specified

Symbol	Parameter	Test Conditions	Min	Max	Units
V_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=1.0mA, I_B=0$	25		V
V_{CBO}	Collector-Base Breakdown Voltage	$I_C=100\mu A, I_E=0$	40		V
V_{EBO}	Emitter-Base Breakdown Voltage	$I_E=100\mu A, I_C=0$	5.0		V
I_{CBO}	Collector Cutoff Current	$V_{CB}=40V, I_E=0$		100	nA
I_{CEO}	Collector Cutoff Current	$V_{CE}=20V, I_B=0$		100	nA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V, I_C=0$		100	nA
h_{FE}	DC Current Gain	$I_C=50mA, V_{CE}=1V$	120	400	
		$I_C=500mA, V_{CE}=1V$	40		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=500mA, I_B=50mA$		0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=500mA, I_B=50mA$		1.2	V
V_{BE}	Base- Emitter Voltage	$I_E=100mA$		1.4	V
f_T	Current Gain-Bandwidth Product	$I_C=20mA, V_{CE}=6V, f=30MHz$	150		MHZ
C_{ob}	Output Capacitance	$V_{CB}=6V, I_E=0, f=1.0MHz$		8	PF

Classification Of h_{FE}

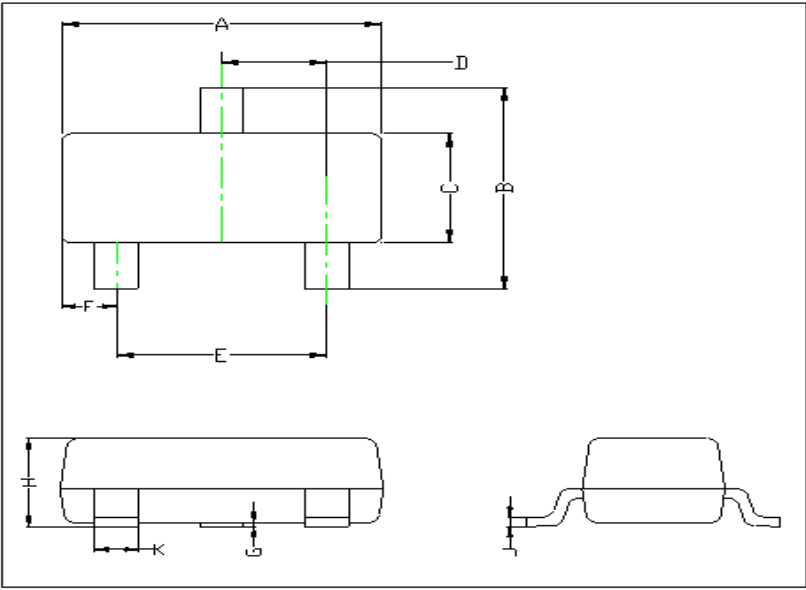
RANK	L	H	J
RANGE	120-200	200-350	300-400

Ordering Information

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
S9013	SOT23	Tape & Reel 3000pcs /7" Reel	8mm	4mm	Conductive	

Package Dimensions

Package Outline : SOT23



Symbol	Dimensions in mm	
	Min.	Max.
A	2.800	3.040
B	2.100	2.640
C	1.200	1.400
D	0.890	1.030
E	1.780	2.050
F	0.450	0.600
G	0.013	0.100
H	0.900	1.110
J	0.090	0.180
K	0.370	0.510

SOT23 Package Outline

Note:
 1. Halogen free ,EMC
 2. Pb free solder
 3. Lead thickness solder plating
 4. Lead frame CAC-5
 5. Other Tolerance ± 0.05
 6. Dimensions are exclusive of Burrs Mold Flash and Tie Bar extrusions
 7. Unit : mm