

Features

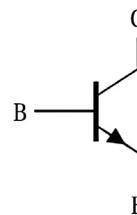
- High DC Current Gain

Applications

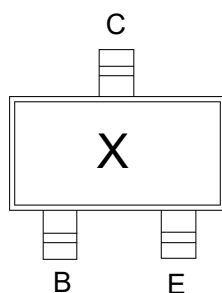
- General Purpose Amplification



SOT-323 top view



Schematic diagram



Marking and pin assignment



Halogen-Free

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	50	mA
P_C	Collector Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	833	°C/W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantitv(pcs)	Outer Carton Quantitv(pcs)	Delivery Mode
2SC4180	SOT-323	D15/D16/D17/D18	3,000	45,000	180,000	7"reel

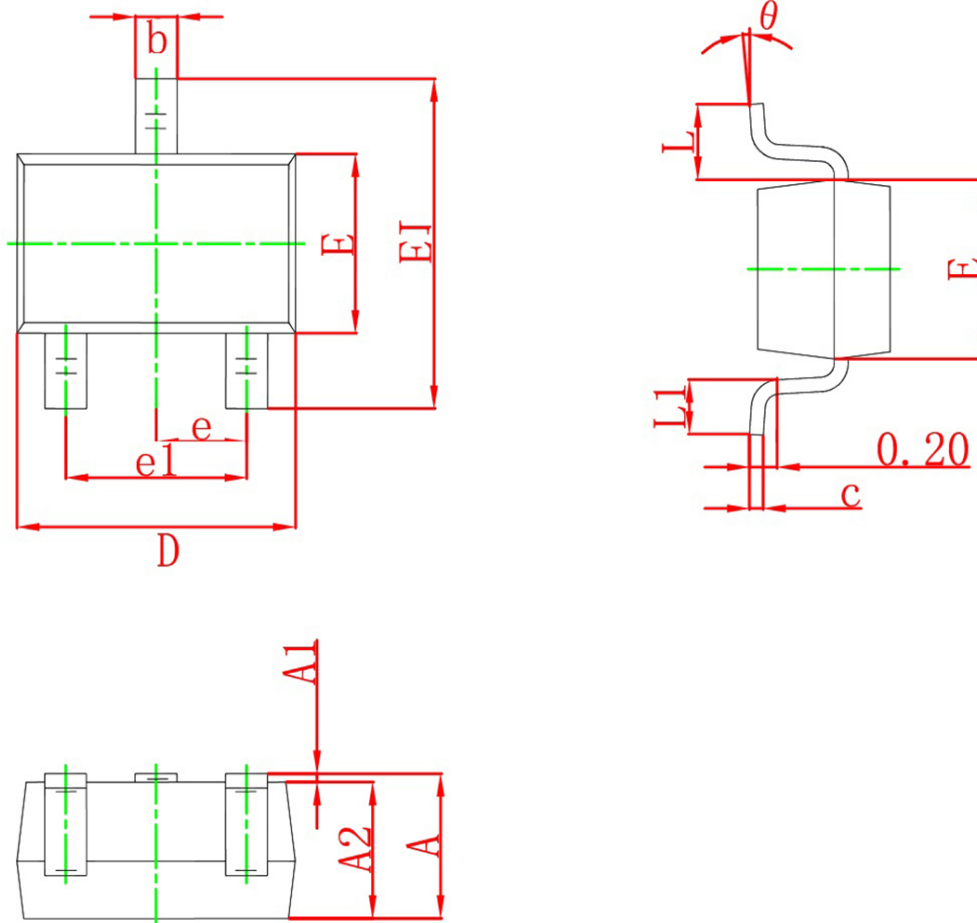
Electrical Characteristics (Ta=25°C unless otherwise specified)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	120	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1mA, I_B=0$	120	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu A, I_C=0$	5	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB}=120V, I_E=0$	--	--	50	nA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V, I_C=0$	--	--	50	nA
$H_{FE(1)}$	DC current gain	$V_{CE}=6V, I_C=1mA$	135	--	900	
$H_{FE(2)}$	DC current gain	$V_{CE}=6V, I_C=0.1mA$	100	--	--	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=10mA, I_B=1mA$	--	--	0.3	V
V_{BE}	Base-emitter voltage	$I_C=6V, I_C=1mA$	0.55	--	0.65	V
f_T	Transition frequency	$V_{CE}=6V, I_C=1mA$	--	50	--	MHz
C_{ob}	Collector output capacitance	$V_{CB}=30V, I_E=0, f=1MHz$	--	--	2.5	pF

Classification of hFE

Rank	D15	D16	D17	D18
Marking	D15	D16	D17	D18
Range	135-270	200-400	300-600	450-900

SOT-323 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650TYP		0.026TYP	
e1	1.200	1.400	0.047	0.055
L	0.525REF		0.021REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°