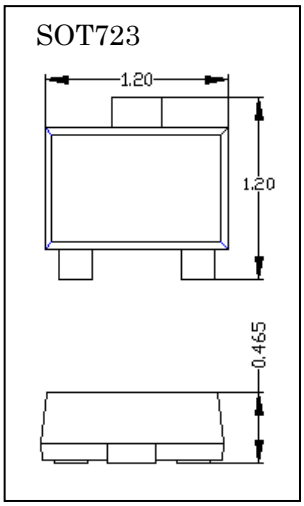
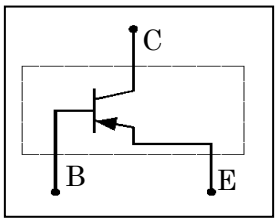
◇ Small Outline Surface Mount Package
◇ RoHS Compliant / Green EMC



Equivalent Circuit



Device Marking Code	
2SA2029	FR

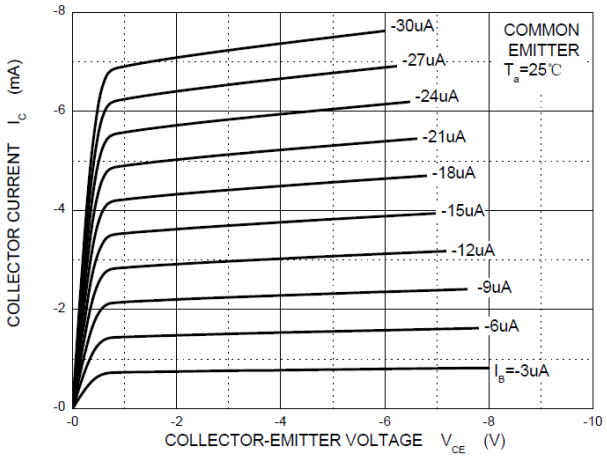
Maximum Ratings (Ta=25℃)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current -Continuous	-150	mA
P_C	Collector Power Dissipation	150	mW
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55～+150	℃

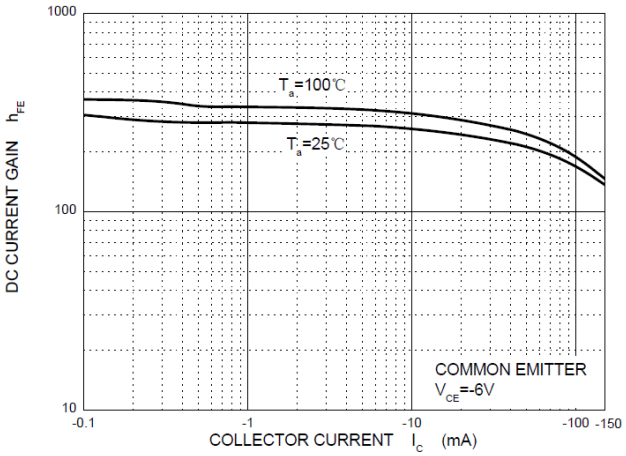
Electrical Characteristics @ 25℃

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C=-1mA, I_B=0	-50			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C=-50μA, I_E=0	-60			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E=-50μA, I_C=0	-6			V
I_{CBO}	Collector Cutoff Current	V_{CB}=-60V, I_E=0			-0.1	uA
I_{EBO}	Emitter Cutoff Current	V_{EB}=-6V, I_C=0			-0.1	uA
h_{FE}	DC Current Gain	V_{CE}=-6V, I_C=-1mA	180		390	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C=-50mA, I_B=-5mA			-0.5	V
f_T	Transition Frequency	V_{CE}=-12V, I_C=2mA, f=30MHz		140		MHz
C_{ob}	Output Capacitance	V_{CB}=-12V, I_E=0, f=1MHz			5	pF

Typical Characteristics

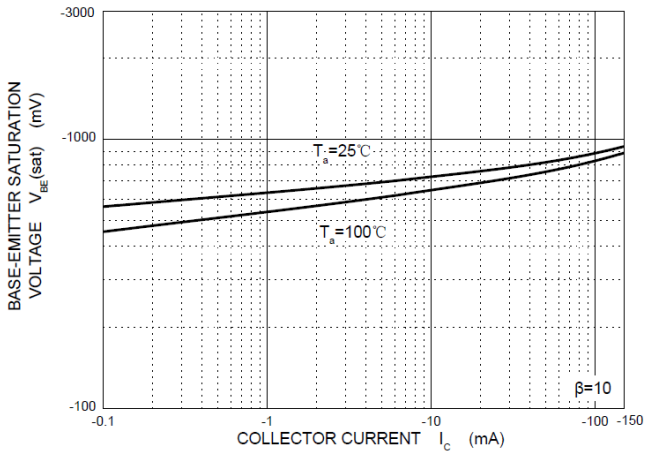


Static Characteristic

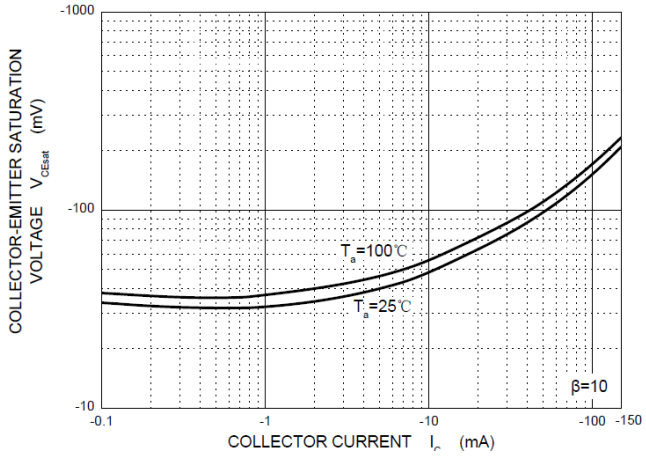


$h_{FE} - I_C$

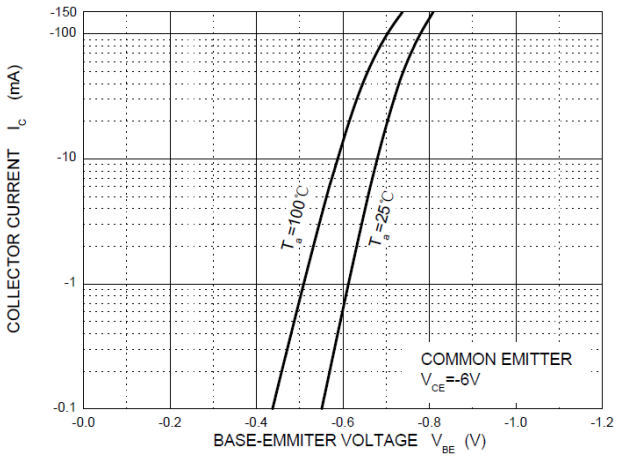
Typical Characteristics



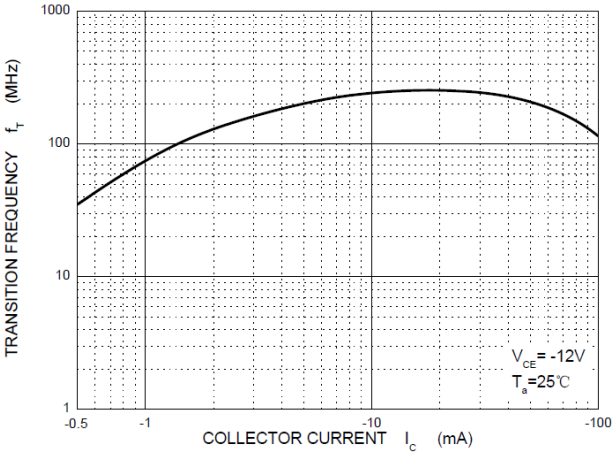
$V_{BEsat} - I_C$



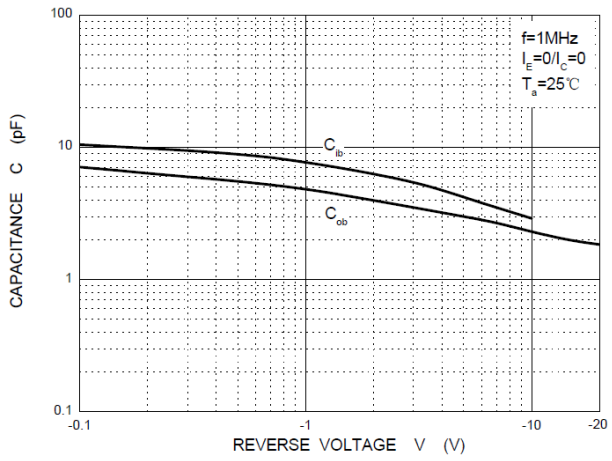
$V_{CEsat} - I_C$



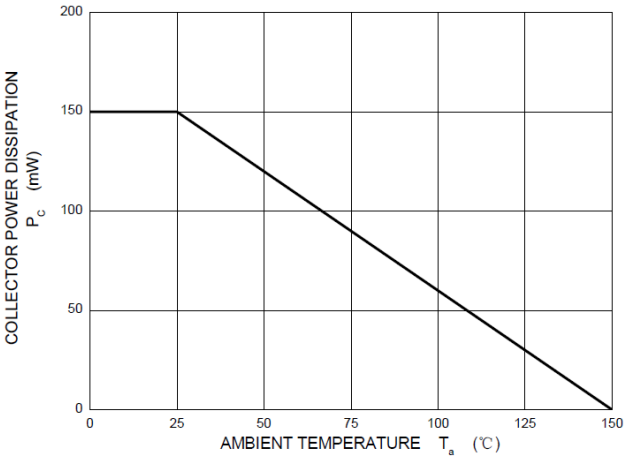
$I_C - V_{BE}$



$f_T - I_C$



$C_{ob}/C_{ib} - V_{CB}/V_{EB}$



$P_c - T_a$

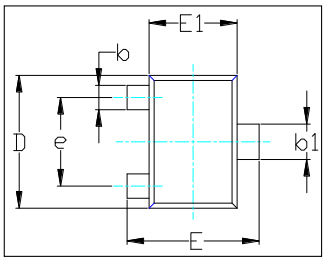
Ordering Information

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
2SA2029	SOT723	Tape & Reel 8000pcs /7" Reel	8mm	4mm	Conductive	

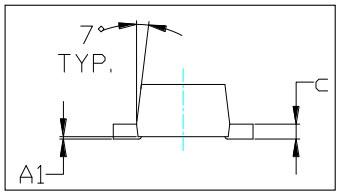
Package Dimensions

Package outline : SOT723

Top view

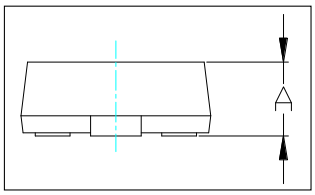


Side view

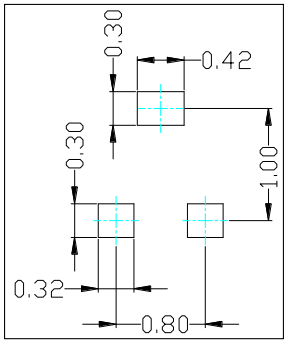


SYMBOL	DIMENSIONS IN MILLIMETER	
	MIN	MAX
A	0.430	0.500
A1	0.000	0.050
b	0.170	0.270
b1	0.270	0.370
c	0.080	0.150
D	1.150	1.250
E	1.150	1.250
E1	0.750	0.850
e	0.800 TYP.	
θ	0°	7°

Front view



Soldering Pattern



Notice:

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