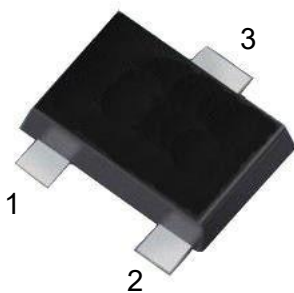




Features

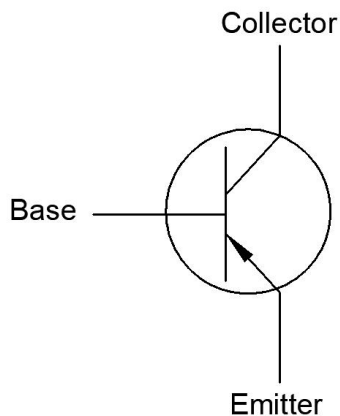
- Low profile package
- Ideal for automated placement
- Complementary to MMBT3904M (NPN).
- Power Dissipation of 200mW
- High Stability and High Reliability
- RoHS Compliant

Appearance & Symbol



Package: SOT-723

- 1: Base
2: Emitter
3: Collector



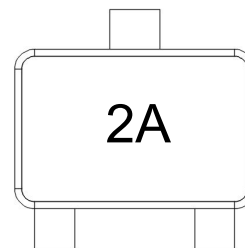
Mechanical Data

- Package: SOT-723
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Tape Reel :8000pcs

Applications

- amplifying signal
- Electronic switch
- Oscillating circuit
- variable resistance

Marking Information



2A= Marking Code

Absolute Maximum Ratings (T=25°C unless otherwise noted)

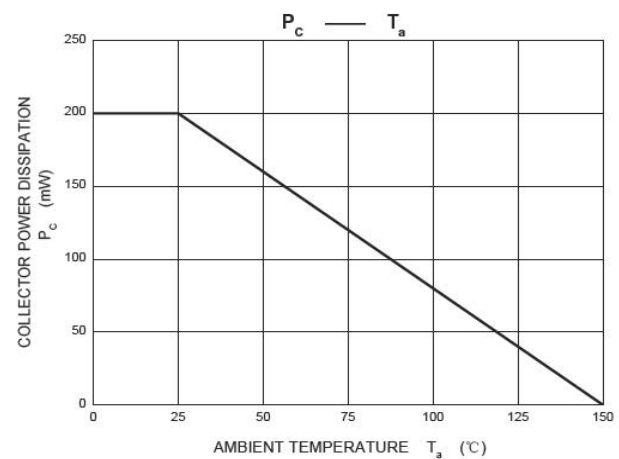
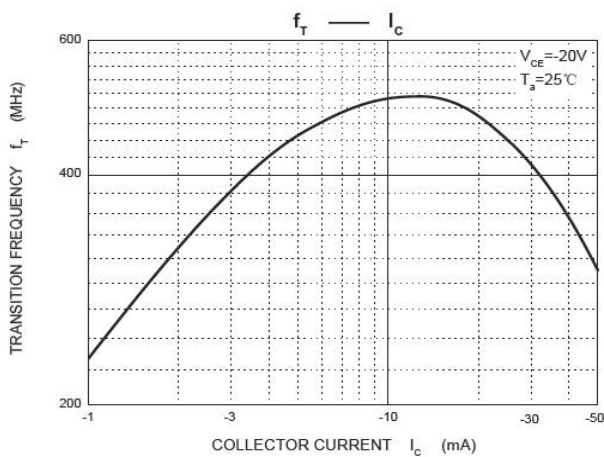
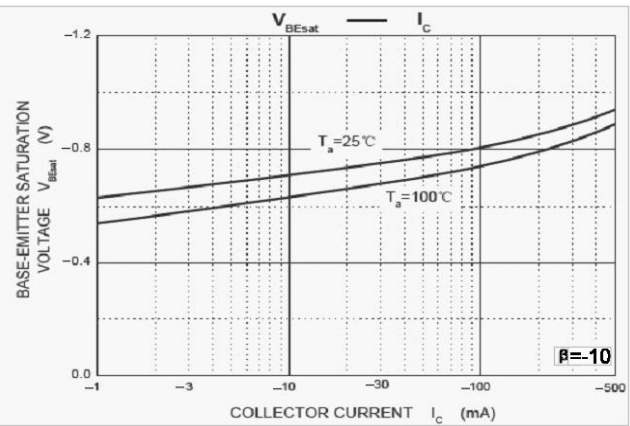
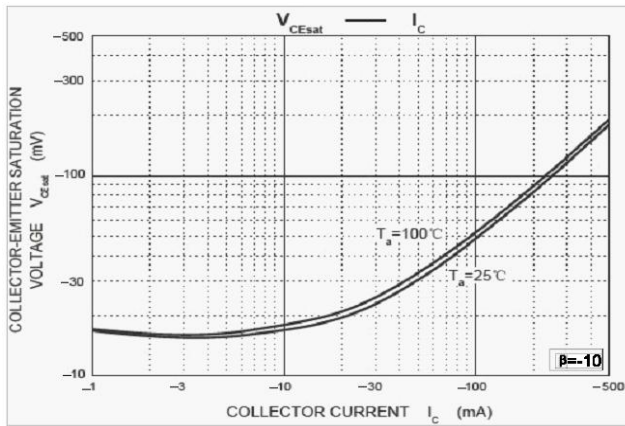
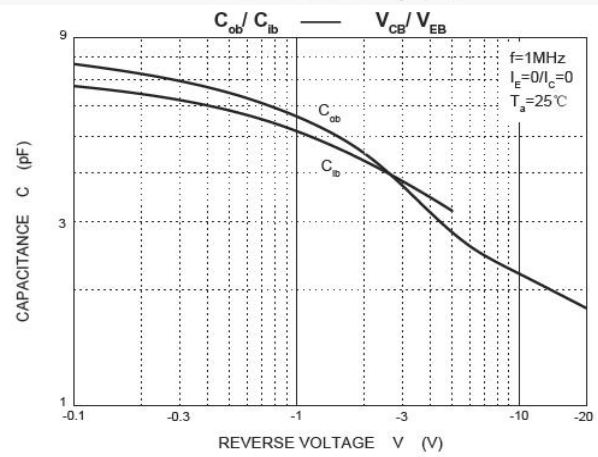
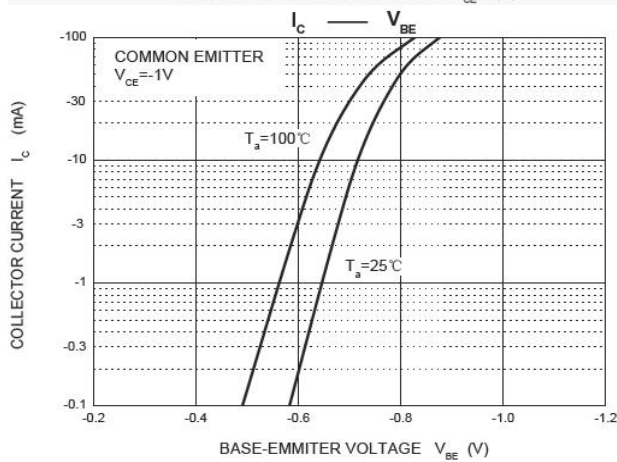
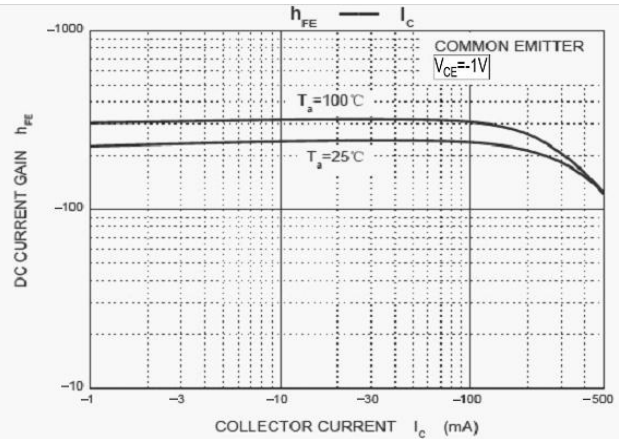
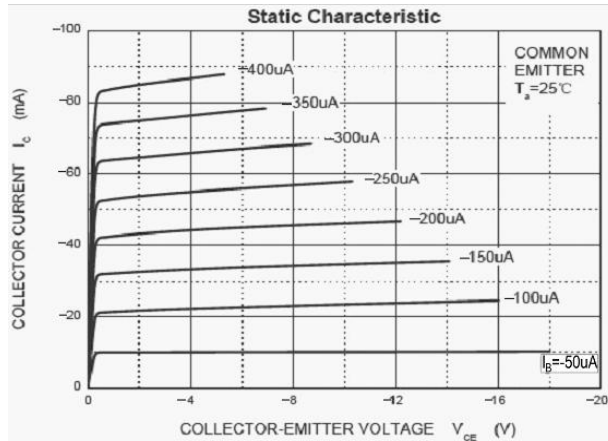
Parameter	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current - Continuous	I_C	-200	mA
Collector Power Dissipation	P_C	200	mW
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	T_J	-55 to +150	°C
Junction and Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics (T=25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5		V
Collector cut-off current	I_{CEX}	$V_{CE} = -30V, V_{BE(off)} = -3V$		-50	nA
Collector cut-off current	I_{CBO}	$V_{CB} = -40V, I_E = 0$		-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5V, I_C = 0$		-100	nA
DC current gain	$h_{FE(1)}$	$V_{CE} = -1V, I_C = -10mA$	100	300	
	$h_{FE(2)}$	$V_{CE} = -1V, I_C = -50mA$	60		
	$h_{FE(3)}$	$V_{CE} = -2V, I_C = -100mA$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50mA, I_B = -5mA$		-0.3	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C = -50mA, I_B = -5mA$		-0.95	V
Transition frequency	f_T	$V_{CE} = -20V, I_C = -10mA, f = 100MHz$	300		MHz
Delay time	t_d	$V_{CC} = -3V, V_{BE} = -0.5V$ $I_C = -10mA, I_{B1} = I_{B2} = -1mA$		35	nS
Rise time	t_r			35	nS
Storage time	t_s	$V_{CC} = -3V, I_C = -10mA$ $I_{B1} = I_{B2} = -1mA$		225	nS
Fall time	t_f			75	nS

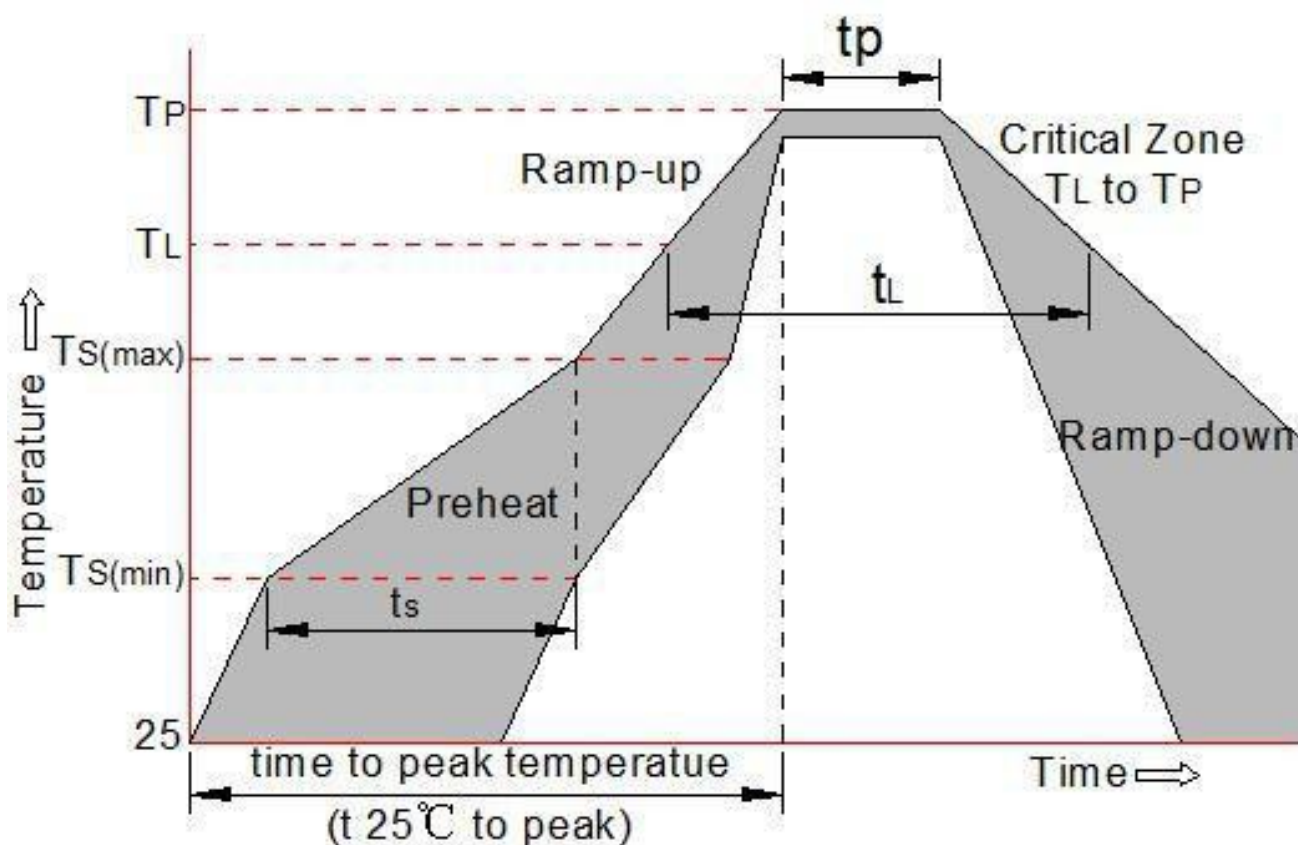


Typical Characteristics

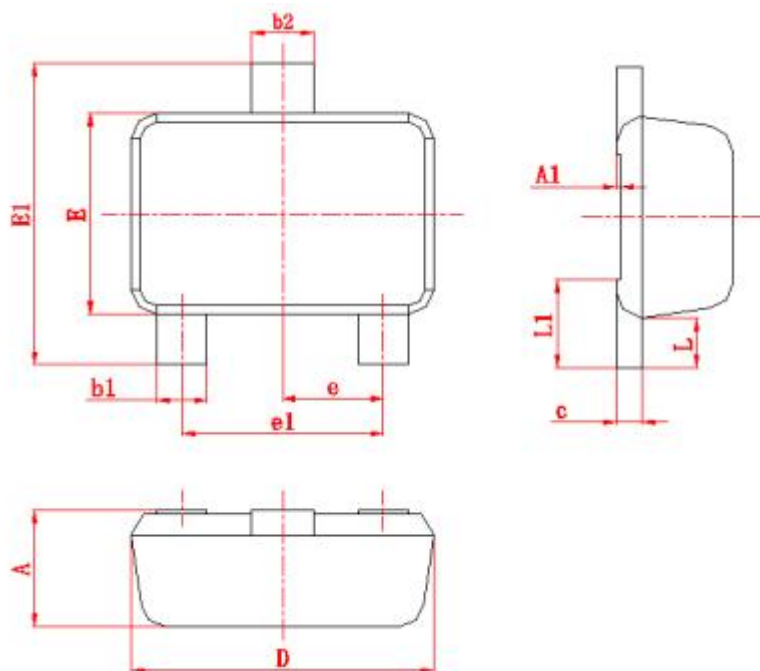


Soldering parameters

Reflow Condition		Pb-Free assembly see as bellow
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_p)		8 min. Max
Do not exceed		+260°C

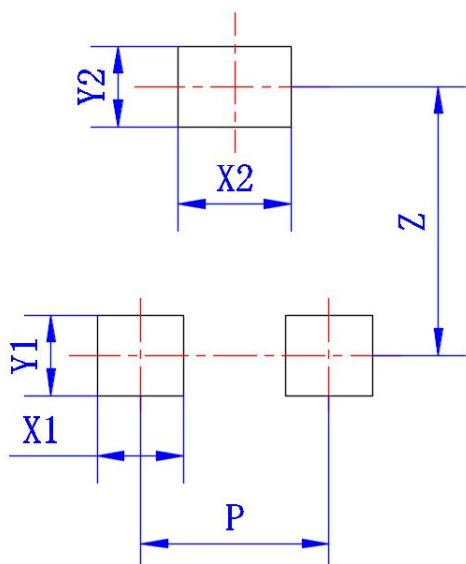


Package mechanical data



Symbol	Dimension in Millimeters	
	min	max
A	0.43	0.5
A1	0	0.05
D	1.15	1.25
E	0.75	0.85
E1	1.15	1.25
e	(0.4)	
e1	0.7	0.9
b1	0.15	0.25
b2	0.25	0.35
c	0.08	0.15
L	0.12	0.28
L1	(0.3)	

Suggested Land Pattern



Symbol	Dimension in Millimeters	
	typ	
X1	(0.4)	
X2	(0.45)	
Y1	(0.4)	
Y2	(0.4)	
P	(0.8)	
Z	(1.1)	