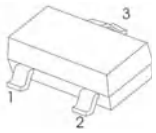
FEATURES

- For Switching and AF Amplifier Applications.

SOT-23



493

1.BASE
2.EMITTER
3.COLLECTOR

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings

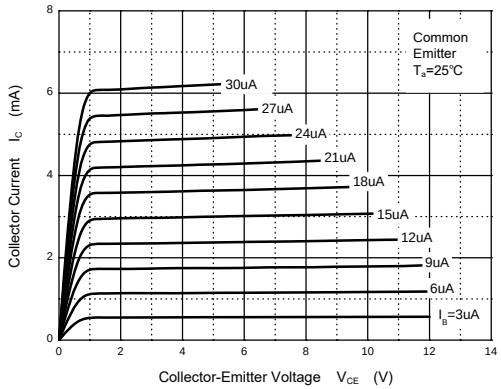
Ratings at 25℃ ambient temperature unless otherwise specified.

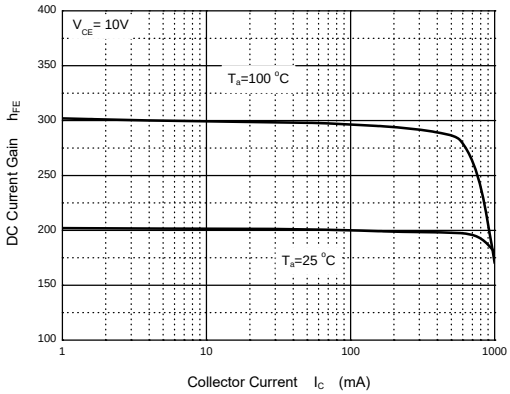
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	120	V
Collector Emitter Voltage	V_{CEO}	100	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1	A
Maximum Power Dissipation	P_D	250	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃

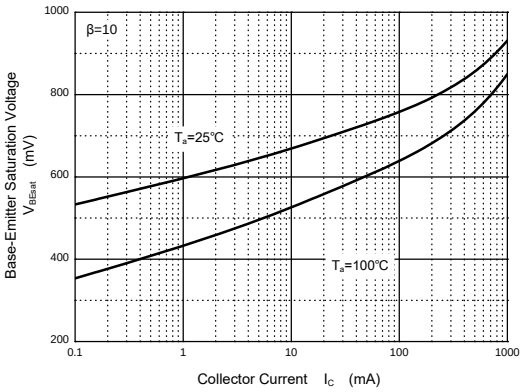
Electrical Characteristics Ta = 25℃

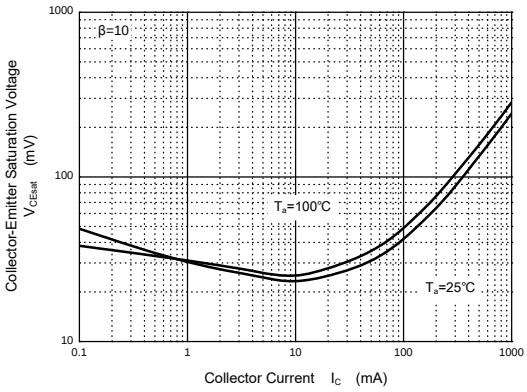
Parameter	Symbol	Min.	Max.	Unit
DC Current Gain Note1 at V_{CE} = 10 V, I_C = 1 mA at V_{CE} = 10 V, I_C = 250 mA at V_{CE} = 10 V, I_C = 500 mA at V_{CE} = 10 V, I_C = 1 A	H_{FE}	 100 100 60 20	 -- 300 -- --	--
Collector Base Cutoff Current at V_{CB} = 100V	I_{CBO}	--	100	nA
Emitter Base Cutoff Current at V_{EB} = 4 V	I_{EBO}	--	100	nA
Collector Base Breakdown Voltage at I_C = 100 μA	$V_{(BR)CBO}$	120	--	V
Collector Emitter Breakdown Voltage at I_C = 1 mA	$V_{(BR)CEO}$	100	--	V
Emitter Base Breakdown Voltage at I_E = 100 μA	$V_{(BR)EBO}$	5	--	V
Collector Emitter Saturation Voltage at I_C = 500 mA, I_B = 50 mA at I_C = 1 A, I_B = 100 mA	$V_{CE(sat)}$	 -- --	 300 600	mV
Base Emitter Saturation Voltage at I_C = 1 A, I_B = 100 mA	$V_{BE(sat)}$	--	1.15	V
Base Emitter On Voltage at V_{CE} = 10 V, I_C = 1 A	$V_{BE(on)}$	--	1	V
Transition Frequency at V_{CE} = 10 V, I_C = 50 mA,f = 100 MHz	F_T	150	--	MHz
Output Capacitance at V_{CB} = 10 V, f = 1 MHz	C_{ob}	--	10	pF

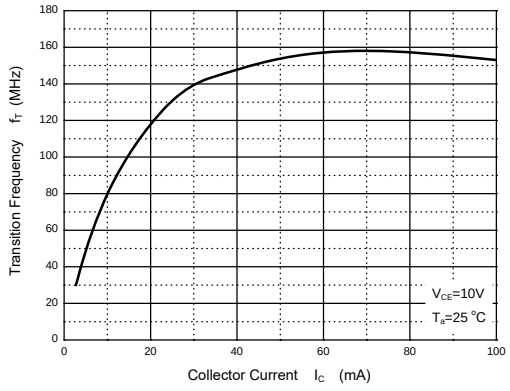
RATING AND CHARACTERISTIC CURVES

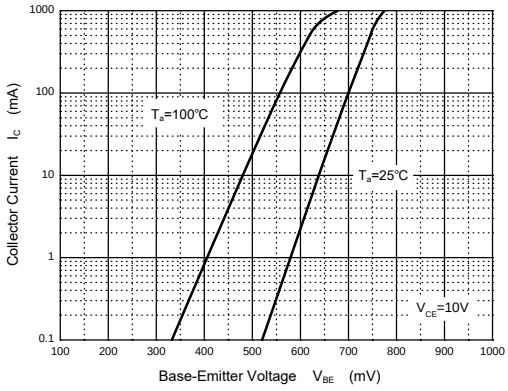


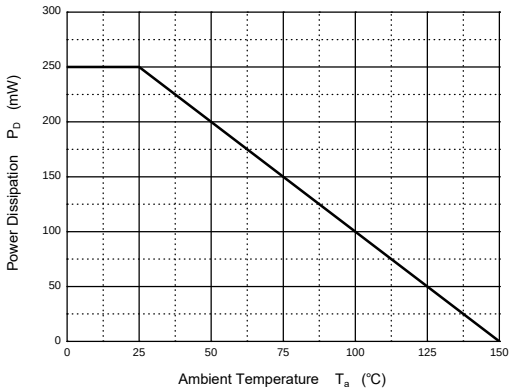








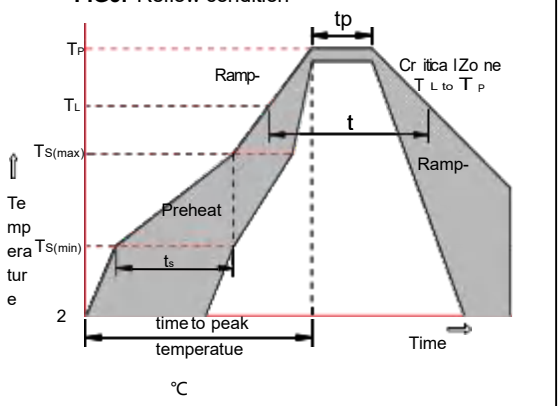




Soldering parameters

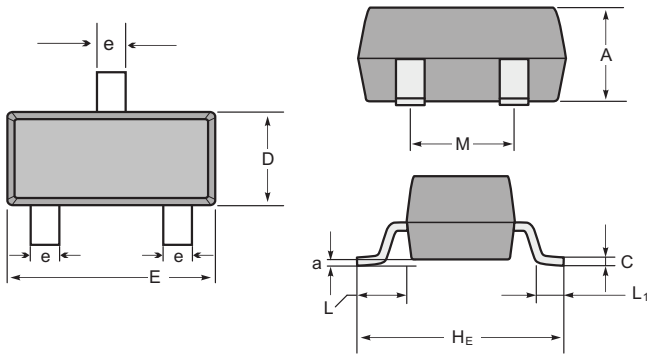
Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid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

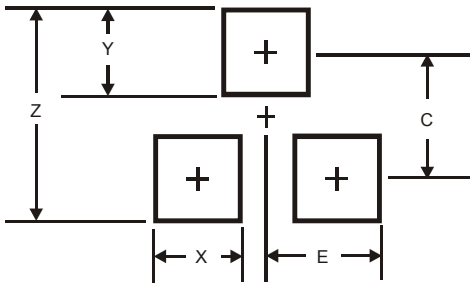
FIG5: Reflow condition



Package Dimensions & Suggested Pad Layout

SOT23





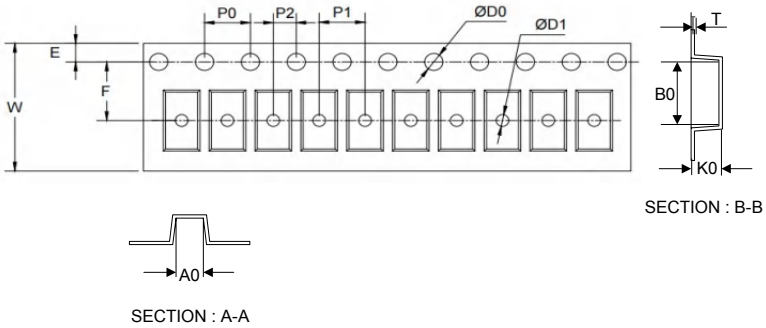
SOT-23 mechanical data

UNIT		A	C	D	E	H_E	e	M	L	L_1	a
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

Dimensions	SOT23
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

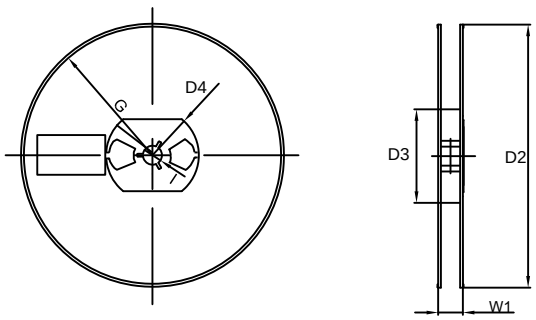
Tape & rell specification

Tape



Symbol	Dimension (mm)
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.10
D0	1.55±0.10
D1	1.05±0.10
E	1.55±0.10
F	3.60±0.10
W	8.00±0.10
A0	3.80±0.20
B0	3.25±0.20
K0	1.45±0.10
T	0.25±0.05

7” Reel



D2	178.0±3.0
D3	55Min.
D4	R24.0±3.0
G	R82.0±3.0
I	13.0±2.0
W1	11.0±3.0
Quantity: 3000PCS	