

FEATURES

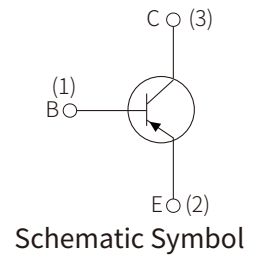
- Complementary to MMST2222A
- Power Dissipation of 200mW
- High Stability and High Reliability

MECHANICAL DATA

- SOT-323 small outline plastic package
- Epoxy UL: 94V-0
- Mounting position: Any

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003



MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	
Emitter-Base Voltage	V_{EBO}	-5	
Collector Current	I_C	-600	mA
Collector Power Dissipation	P_C	250	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$

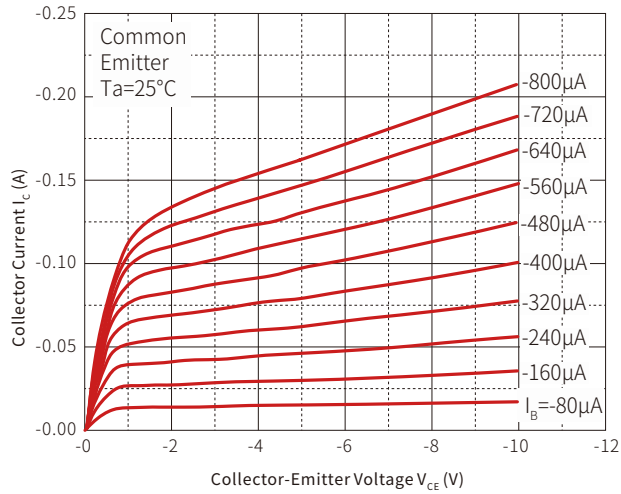
ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-10μA, I _E =0	-60			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-10mA, I _B =0	-60			
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-10μA, I _C =0	-5			
Collector cut-off current	I _{CBO}	V _{CB} =-50V, I _E =0			-100	nA
Collector cut-off current	I _{CES}	V _{CB} =-50V, I _B =0			-100	
Emitter cut-off current	I _{EBO}	V _{EB} =-3V, I _C =0			-100	
DC current gain	h _{FE(1)}	V _{CE} =-10V, I _C =-150mA	100		300	
	h _{FE(2)}	V _{CE} =-10V, I _C =-0.1mA	75			
	h _{FE(3)}	V _{CE} =-10V, I _C =-1mA	100			
	h _{FE(4)}	V _{CE} =-10V, I _C =-10mA	100			
	h _{FE(5)}	V _{CE} =-10V, I _C =-500mA	50			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-150mA, I _B =-15mA			-0.4	V
	V _{CE(sat)}	I _C =-500mA, I _B =-50mA			-1.6	
Base-emitter saturation voltage	V _{BE(sat)}	I _C =-150mA, I _B =-15mA			-1.30	
	V _{BE(sat)}	I _C =-500mA, I _B =-50mA			-2.60	
Transition frequency	f _T	V _{CE} =-20V, I _C =-50mA, f=100MHz	200			MHz
Collector output capacitance	C _{ob}	V _{CE} =-10V, I _E =0, f=0.1MHz			8	pF
Input capacitance	C _{ib}	V _{EB} =-2V, I _C =0, f=0.1MHz			30	pF
Delay time	td	V _{CC} =-30V, V _{BE(off)} =-1.5V I _C =-150mA, I _{B1} =-15mA			10	nS
Rise time	tr				40	
Storage time	ts	V _{CC} =-6V, I _C =-150mA, I _{B1} =I _{B2} =-15mA			80	
Fall time	tf				30	

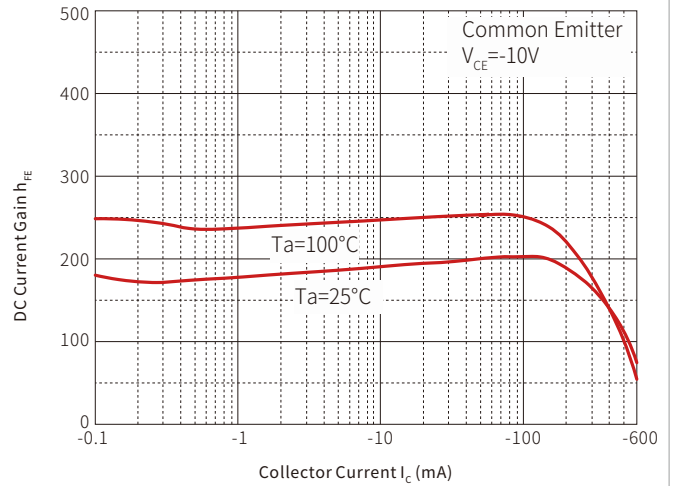
*Pulse test: pulse width ≤300μs, duty cycle ≤ 2.0%.

TYPICAL CHARACTERISTICS

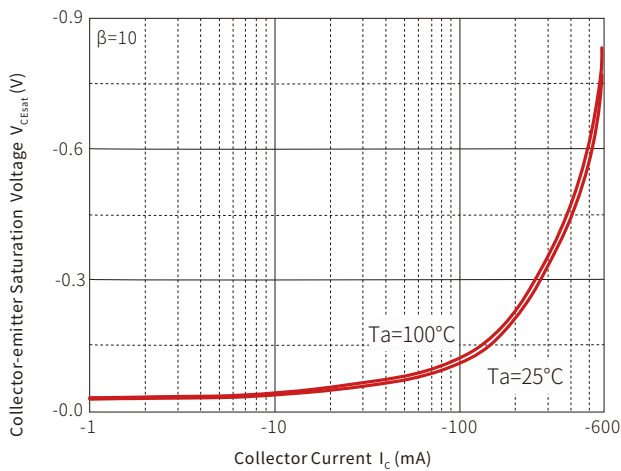
Static Characteristic



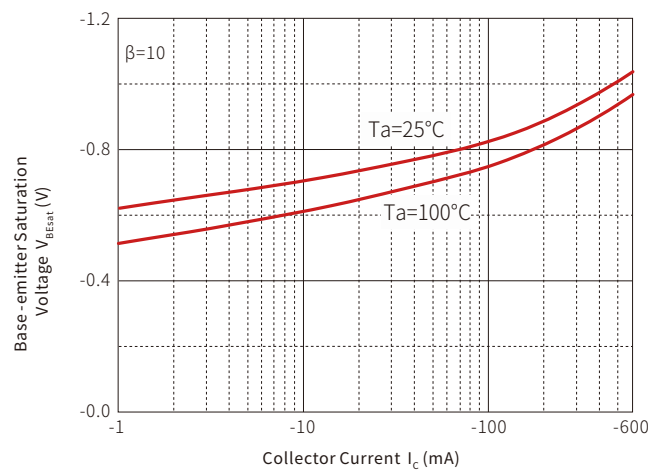
h_{FE} — I_C

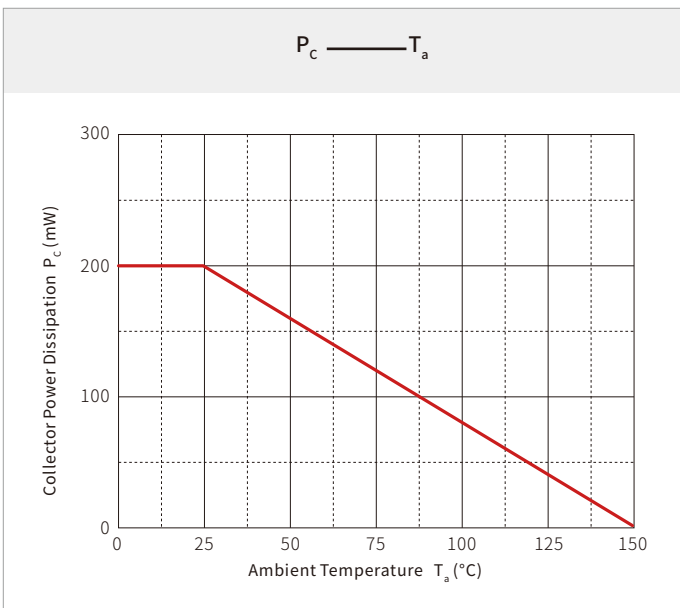
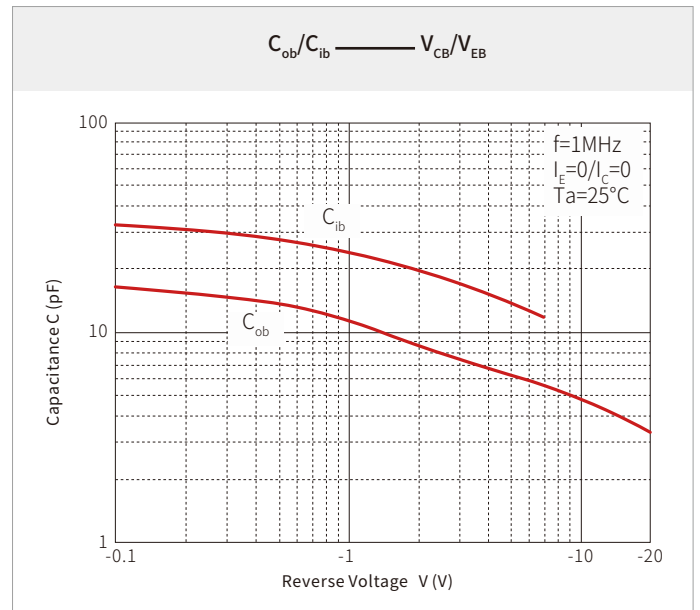
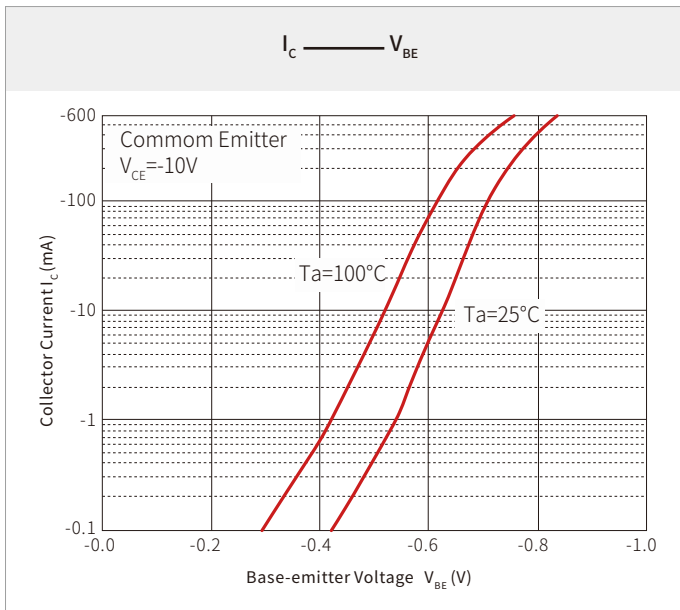


$V_{CE sat}$ — I_C



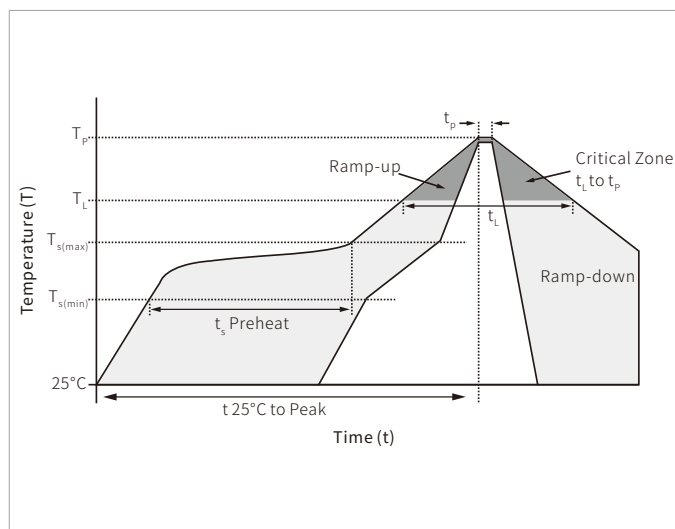
$V_{BE sat}$ — I_C



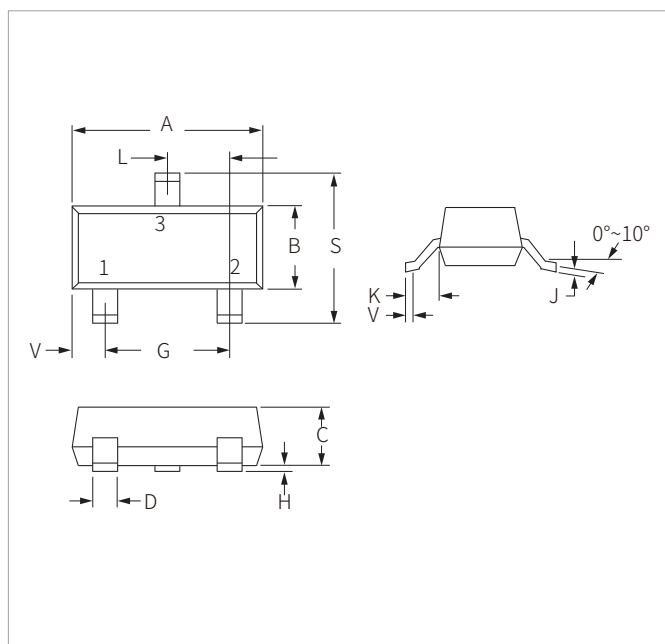


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

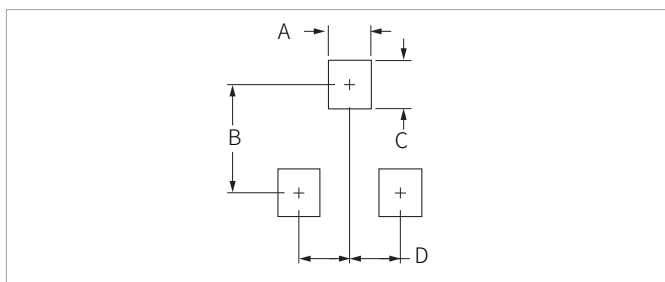


SOT-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.00	2.20	0.079	0.087
B	1.15	1.35	0.045	0.053
C	0.80	1.10	0.031	0.043
D	0.20	0.40	0.008	0.016
G	1.20	1.40	0.047	0.055
H	0.00	0.10	0.000	0.004
J	0.08	0.15	0.003	0.006
K	0.525REF		0.021REF	
L	0.650TYP		0.026TYP	
S	2.15	2.45	0.085	0.096
V	0.26	0.46	0.010	0.018

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	NOR	NOR
A	0.50	0.020
B	2.20	0.087
C	0.80	0.031
D	1.30	0.051

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
MMST2907A	SOT-323	3000PCS	7"

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By QR Code

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