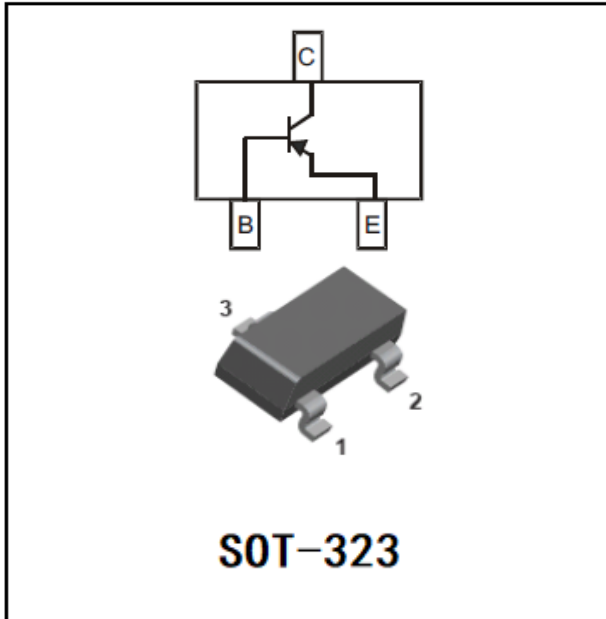


## PNP Transistor



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- High Conductance
- Surface Mount Package Ideally Suited for Automatic Insertion

### Mechanical Data

- **Package:** SOT-323  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** K3F

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

Item	Symbol	Unit	Value
Collector-Base Voltage	$V_{CBO}$	V	-60
Collector-Emitter Voltage	$V_{CEO}$	V	-60
Emitter-Base Voltage	$V_{EBO}$	V	-5
Collector Current	$I_C$	mA	-600
Collector Power Dissipation	$P_C$	mW	200
Operation Junction Temperature	$T_j$	°C	150
Storage Temperature	$T_{stg}$	°C	-55 to +150



## ■ Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{CBO}$	V	$I_C=-10\mu A, I_E=0$	-60		
Collector-emitter breakdown voltage	$V_{CEO^*}$	V	$I_C=-10mA, I_B=0$	-60		
Emitter-base breakdown voltage	$V_{EBO}$	V	$I_E=-10\mu A, I_C=0$	-5		
Collector-emitter cut-off current	$I_{CEO}$	nA	$V_{CE}=-35V, I_B=0$			-50
Collector-base cut-off current	$I_{CBO}$	nA	$V_{CB}=-50V, I_E=0$			-10
Emitter-base cut-off current	$I_{EBO}$	nA	$V_{EB}=-3V, I_C=0$			-10
DC current gain	$h_{FE}$		$V_{CE}=-10V, I_C=-1mA$	100		
	$h_{FE}$		$V_{CE}=-10V, I_C=-150mA$	100		300
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=-500mA, I_B=-50mA$			-1.6
Base-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C=-500mA, I_B=-50mA$			-2.6
Transition frequency	$f_T$	MHz	$V_{CE}=-20V, I_C=-50mA, f=100MHz$	200		
Delay time	$t_d$	ns	$V_{CC}=-30V, I_C=-150mA, I_{B1}=-15mA$			10
Rise time	$t_r$	ns				25
Storage time	$t_s$	ns	$V_{CC}=-6V, I_C=-150mA, I_{B1}=I_{B2}=-15mA$			225
Fall time	$t_f$	ns				60

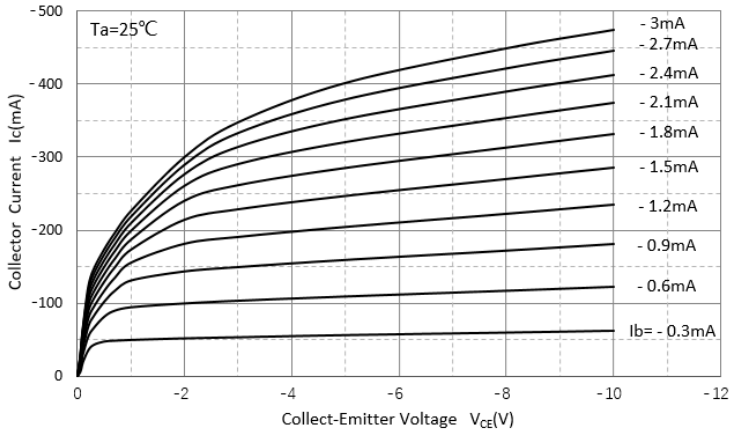
## ■ Ordering Information (Example)

Preferred P/N	Packing Code	Unit Weight(G)	Minimum Package(Pcs)	Inner Box Quantity(Pcs)	Outer Carton Quantity(Pcs)	Delivery Mode
MMST2907A	F2	Approximate 0.005	3000	30000	120000	7" reel

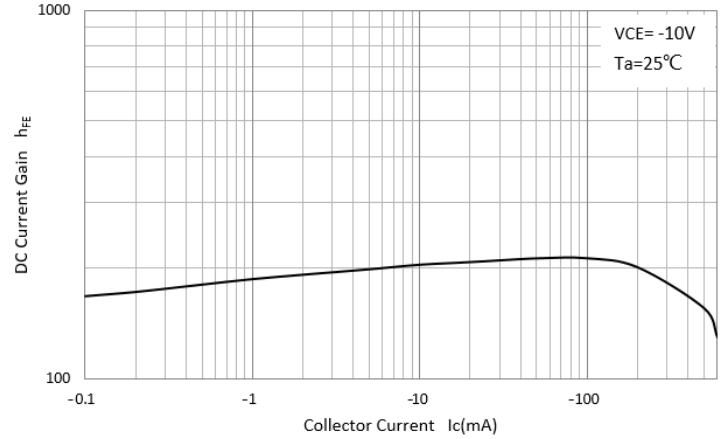


## ■ Characteristics (Typical)

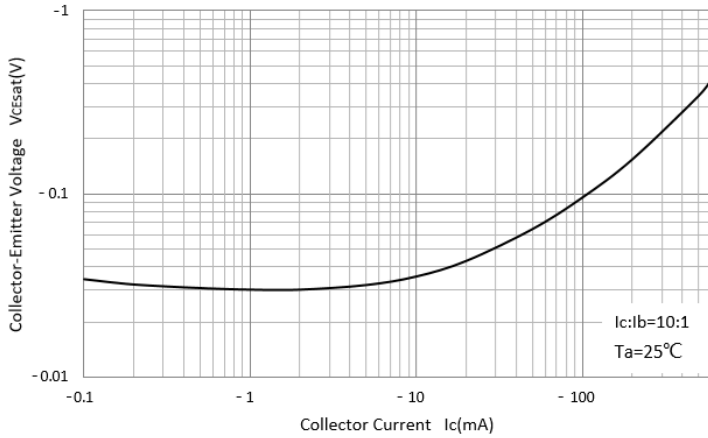
### Static Characteristic



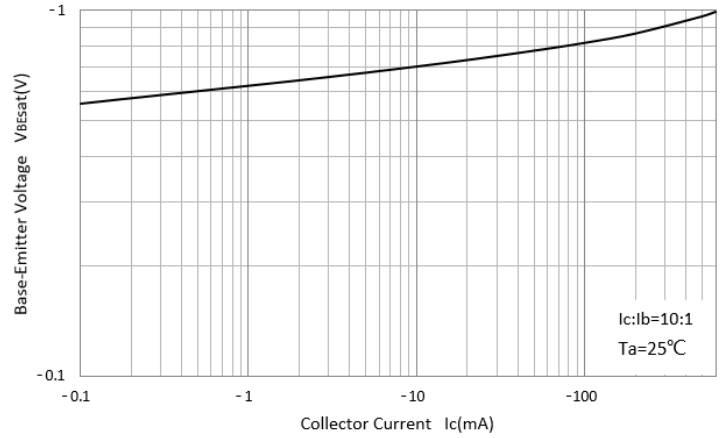
### DC Current Gain



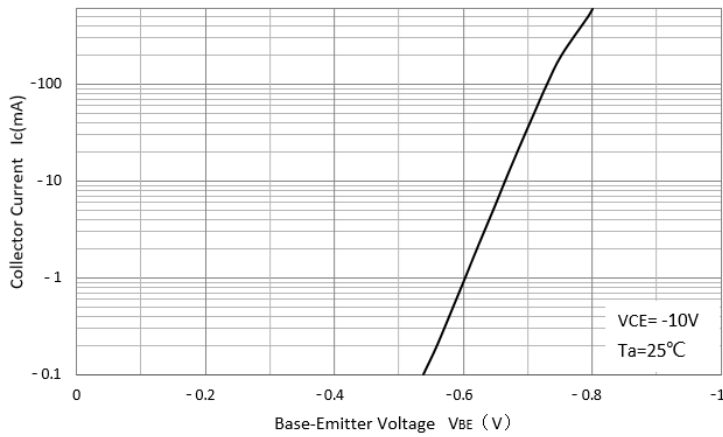
### Collector-Emittor Saturation Voltage



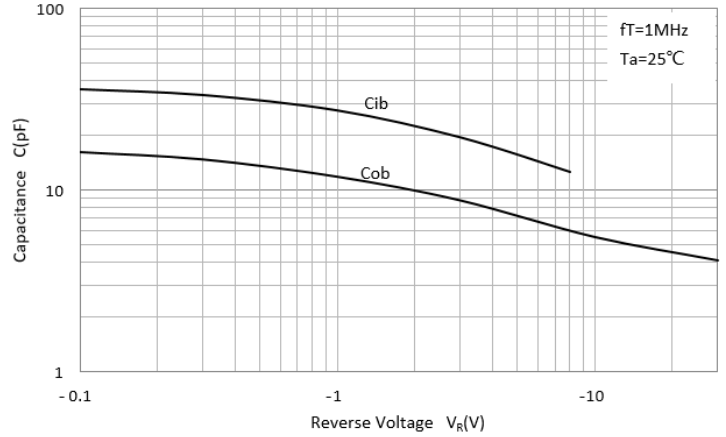
### Base-Emittor Saturation Voltage



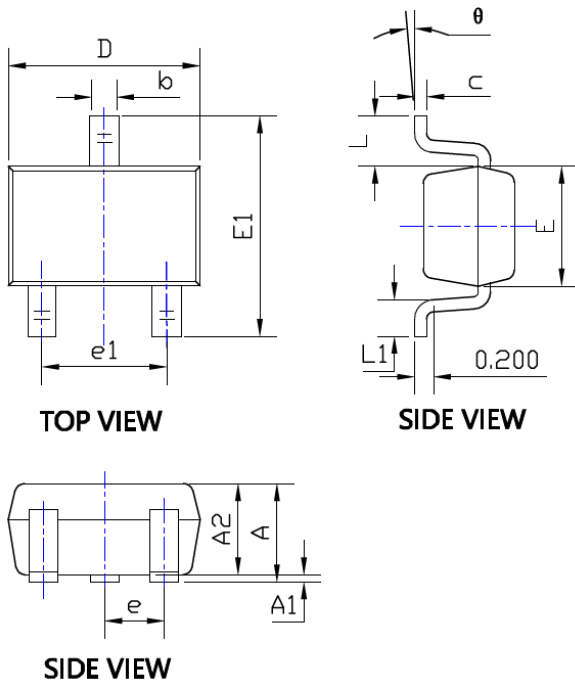
### Base-Emittor On Voltage



### Cob/Cib-V<sub>CB</sub>/V<sub>EB</sub>

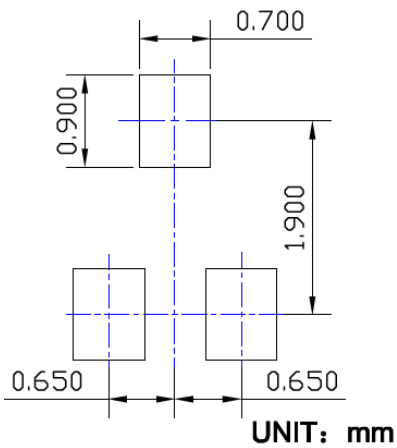


## ■ SOT-323 Package Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.016	0.150	0.400
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
$\theta$	0°	8°	0°	8°

## ■ SOT-323 Soldering Footprint





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