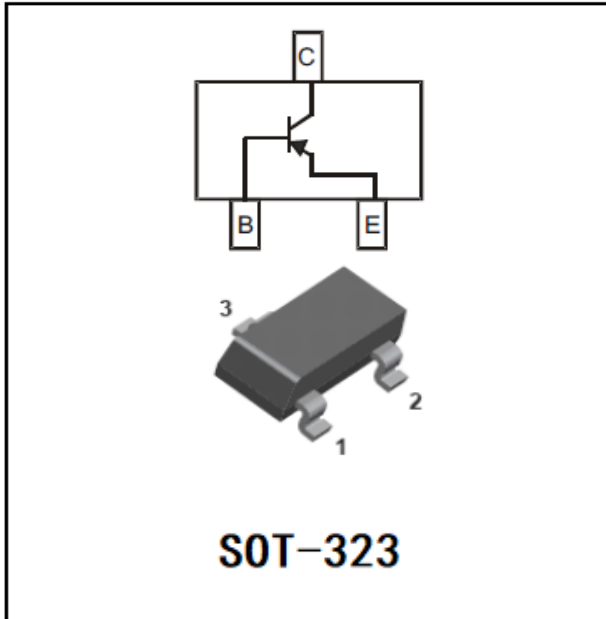


PNP Transistor



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

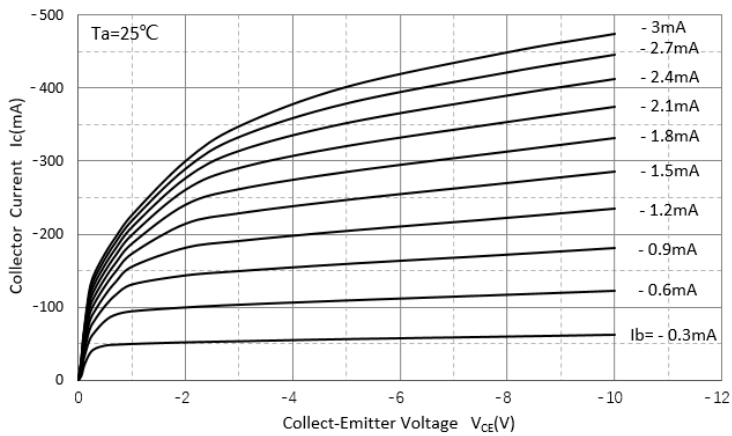
■ Ordering Information (Example)

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

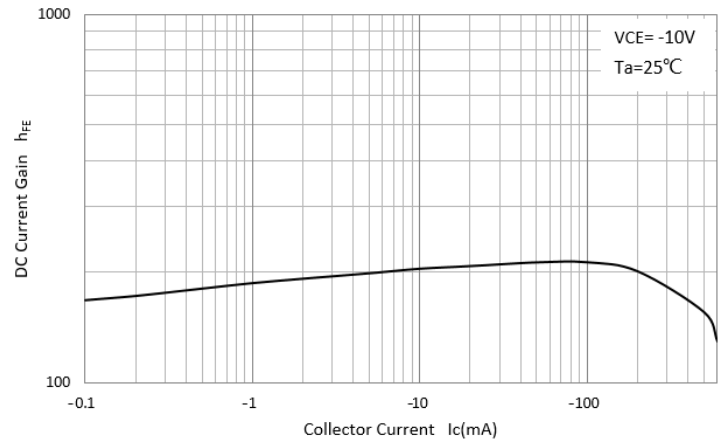


■ Characteristics (Typical)

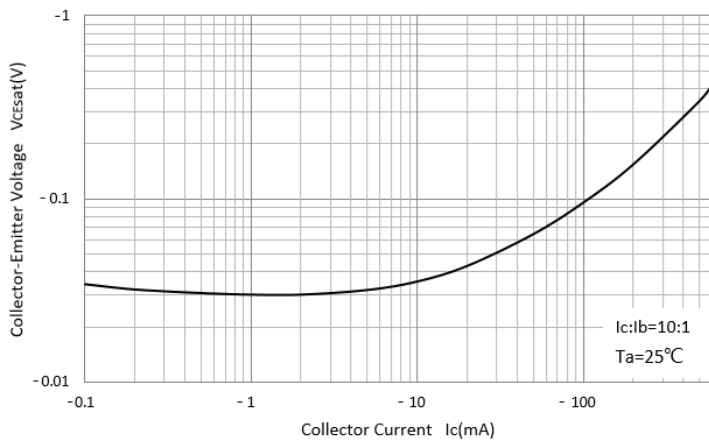
Static Characteristic



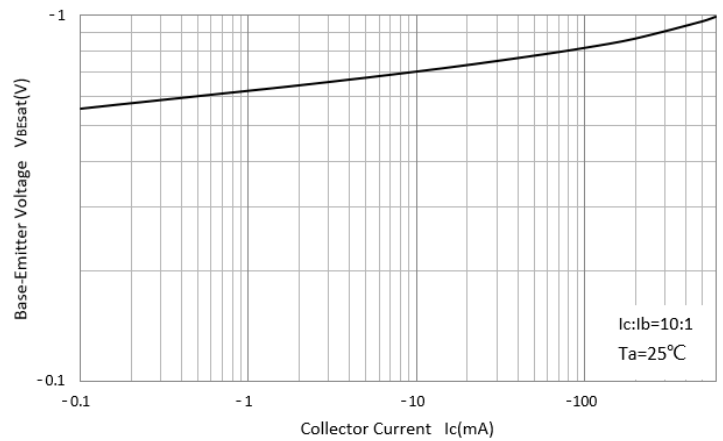
DC Current Gain



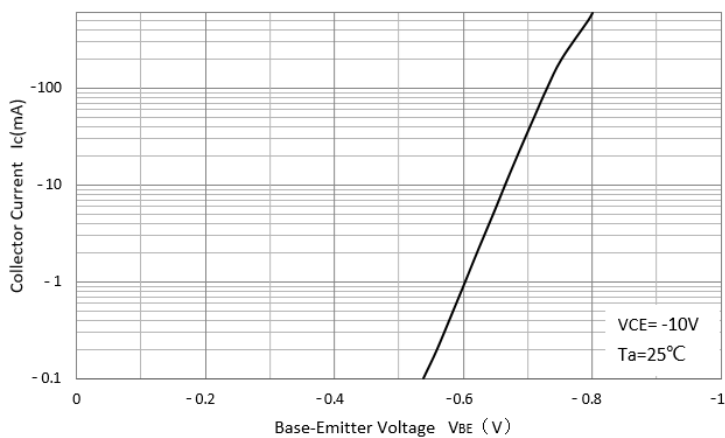
Collector-Emitter Saturation Voltage



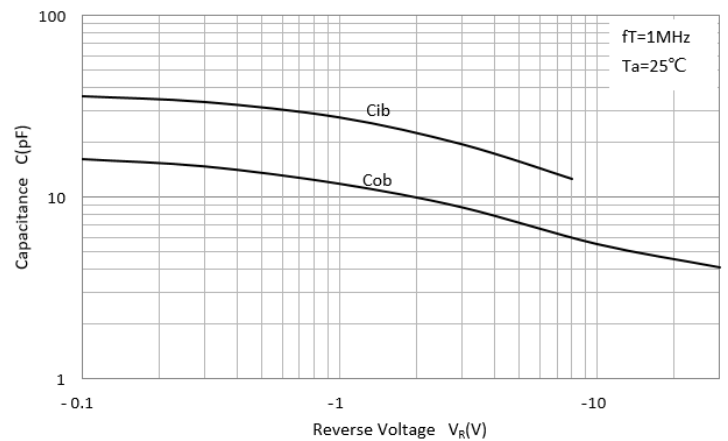
Base-Emitter Saturation Voltage



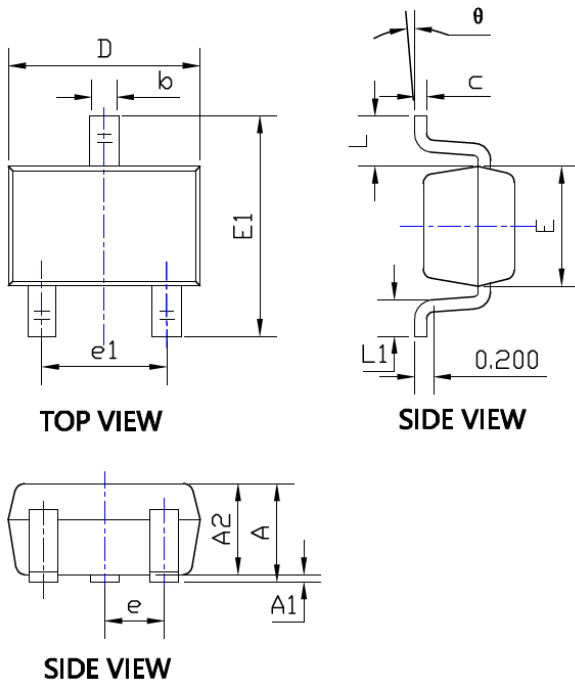
Base-Emitter On Voltage



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

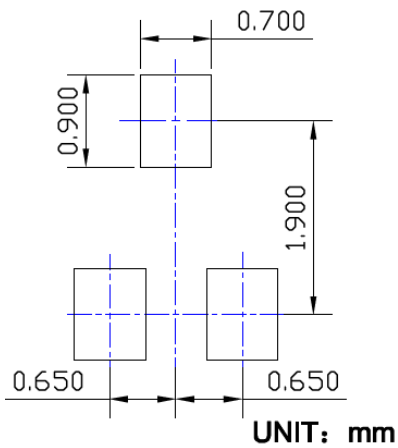


■ SOT-323 Package Outline Dimensions



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	0.026 TYP		0.650 TYP	
e1	0.047	0.055	1.200	1.400
L	0.021 REF		0.525 REF	
L1	0.010	0.018	0.260	0.460
θ	0°	8°	0°	8°

■ SOT-323 Soldering Footprint





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