

## Features

- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

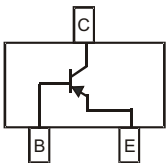
## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 625 °C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	-160	V
Collector-Emitter Voltage	$V_{CEO}$	-150	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-200	mA
Collector Power Dissipation	$P_C$	200	mW

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <100ppm antimony compounds.

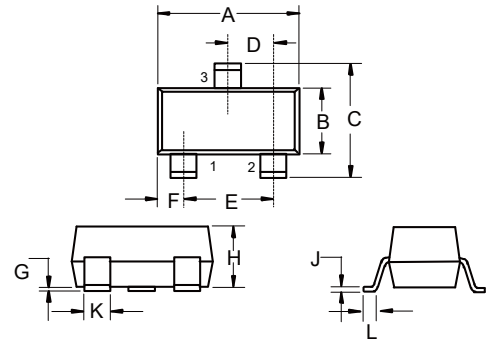
## Internal Structure



Marking: K4M

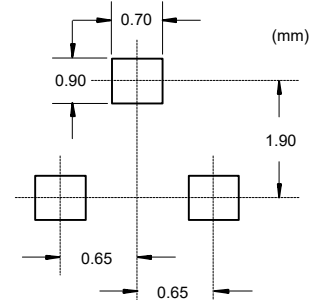
# PNP Plastic Encapsulate Transistor

## SOT-323



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.071	0.087	1.80	2.20	
B	0.045	0.053	1.15	1.35	
C	0.083	0.096	2.10	2.45	
D	0.026		0.65		TYP.
E	0.047	0.055	1.20	1.40	
F	0.012	0.016	0.30	0.40	
G	0.000	0.004	0.00	0.10	
H	0.035	0.044	0.90	1.10	
J	0.002	0.010	0.05	0.25	
K	0.006	0.016	0.15	0.40	
L	0.010	0.018	0.26	0.46	

## Suggested Solder Pad Layout



**Electrical Characteristics @ 25°C Unless Otherwise Specified**

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-160			V	$I_C = -100\mu A, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-150			V	$I_C = -1mA, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E = -10\mu A, I_C = 0$
Collector-Base Cutoff Current	$I_{CBO}$			-50	nA	$V_{CB} = -120V, I_E = 0$
Emitter-Base Cutoff Current	$I_{EBO}$			-50	nA	$V_{EB} = -3V, I_C = 0$
DC Current Gain	$h_{FE(1)}$	50				$V_{CE} = -5V, I_C = -1mA$
	$h_{FE(2)}$	60		300		$V_{CE} = -5V, I_C = -10mA$
	$h_{FE(3)}$	50				$V_{CE} = -5V, I_C = -50mA$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.2	V	$I_C = -10mA, I_B = -1mA$
				-0.5	V	$I_C = -50mA, I_B = -5mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-1	V	$I_C = -10mA, I_B = -1mA$
				-1	V	$I_C = -50mA, I_B = -5mA$
Transition Frequency	$f_T$	100		300	MHz	$V_{CE} = -10V, I_C = -10mA, f = 100MHz$
Output Capacitance	$C_{ob}$			6	pF	$V_{CB} = -10V, I_E = 0, f = 1MHz$
Noise Figure	NF			8	dB	$V_{CE} = -5V, I_C = -200\mu A, R_g = 10\Omega, f = 1KHz$

**Curve Characteristics**

Fig. 1 - Static Characteristics

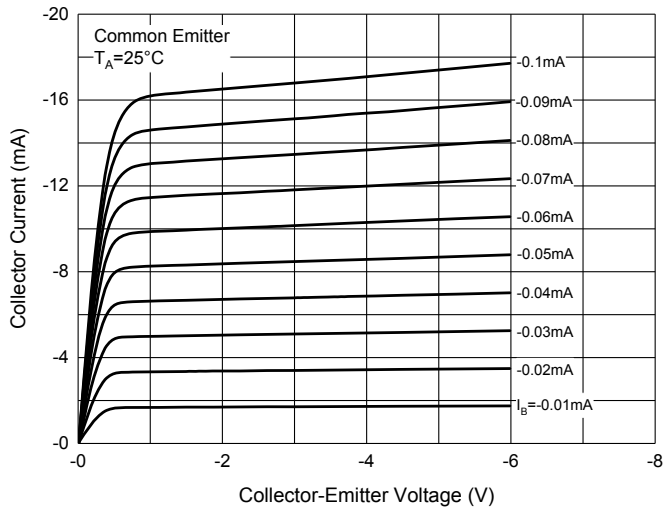


Fig. 2 - DC Current Gain Characteristics

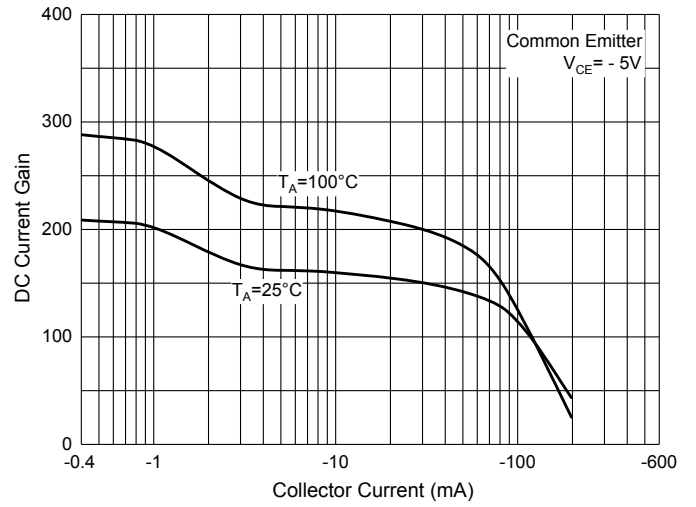


Fig. H - Base-Emitter Saturation Voltage Characteristics

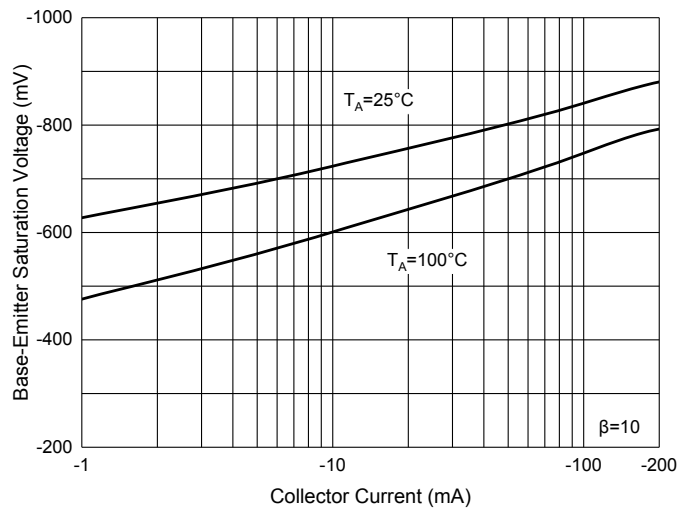


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

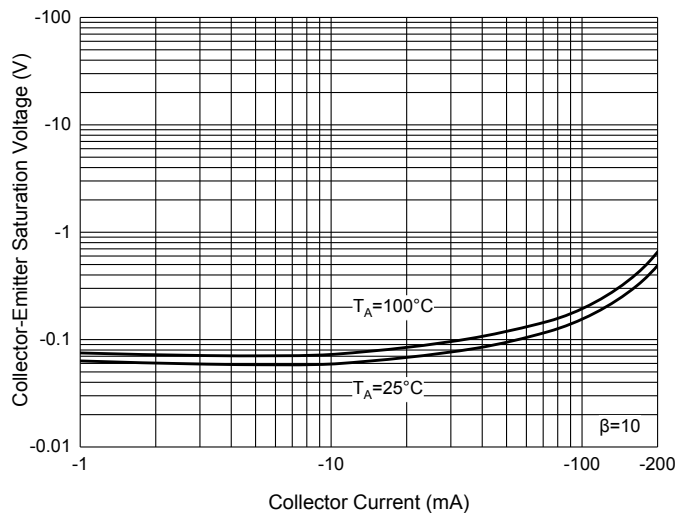


Fig. 5 - Base-Emitter Voltage Characteristics

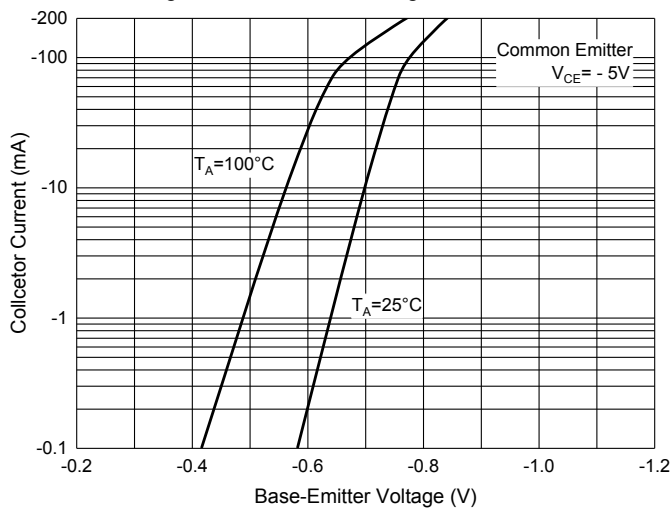
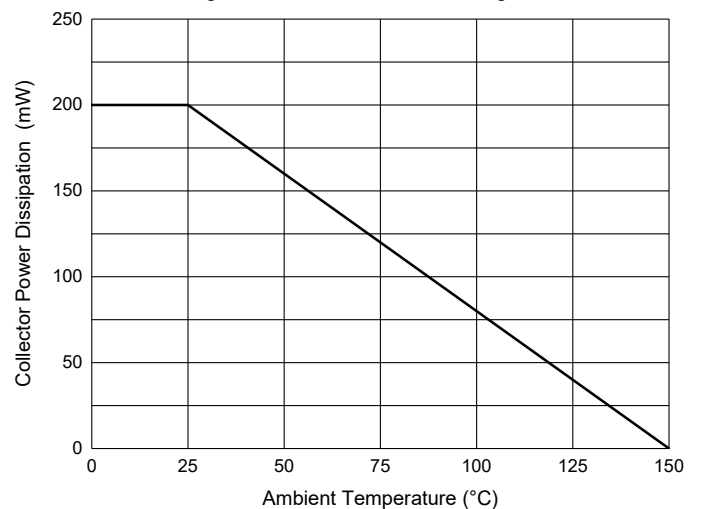


Fig. 6 - Collector Power Derating Curve



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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