

## Features

- Complement to 2SA2029
- 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 @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C

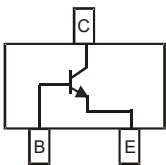
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Collector Current	$I_C$	150	mA
Collector Power Dissipation	$P_C$	100	mW

## Classification Of $h_{FE}$

Rank	Q	R	S
Range	120-270	180-390	270-560
Marking	BQ	BR	BS

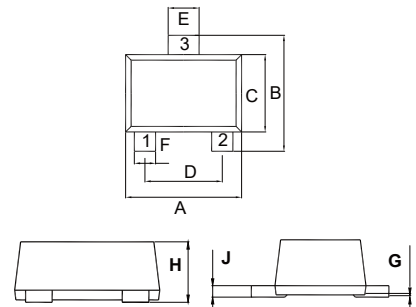
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

## Internal Structure



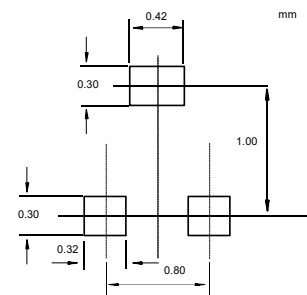
# NPN General Purpose Transistors

## SOT-723



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.043	0.051	1.10	1.30	
B	0.043	0.051	1.10	1.30	
C	0.028	0.035	0.70	0.90	
D	0.031		0.80		TYP.
E	0.009	0.017	0.22	0.42	
F	0.005	0.013	0.12	0.32	
G	0.000	0.002	0.00	0.05	
H	0.017	0.021	0.43	0.54	
J	0.003	0.006	0.08	0.15	

## SUGGESTED SOLDER PAD LAYOUT



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

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60			V	$I_C=50\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	50			V	$I_C=1mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	7			V	$I_E=50\mu A, I_C=0$
Collector-Base Cutoff Current	$I_{CBO}$			100	nA	$V_{CB}=60V, I_E=0$
Emitter-Base Cutoff Current	$I_{EBO}$			100	nA	$V_{EB}=7V, I_C=0$
DC Current Gain	$h_{FE}$	120		560		$V_{CE}=6V, I_C=1mA$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.4	V	$I_C=50mA, I_B=5mA$
Transition Frequency	$f_T$		180		MHz	$V_{CE}=12V, I_C=2mA, f=100MHz$
Output Capacitance	$C_{ob}$			3.5	pF	$V_{CB}=12V, I_E=0, f=1MHz,$

**Curve Characteristics**

Fig. 1 - Static Characteristics

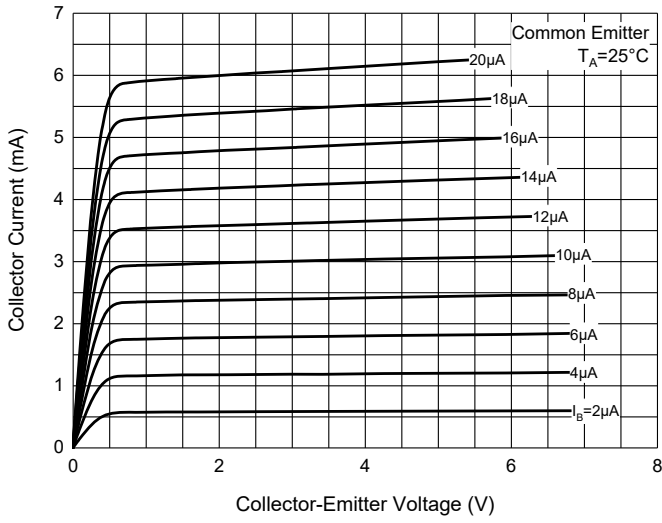


Fig. 2 - DC Current Gain Characteristics

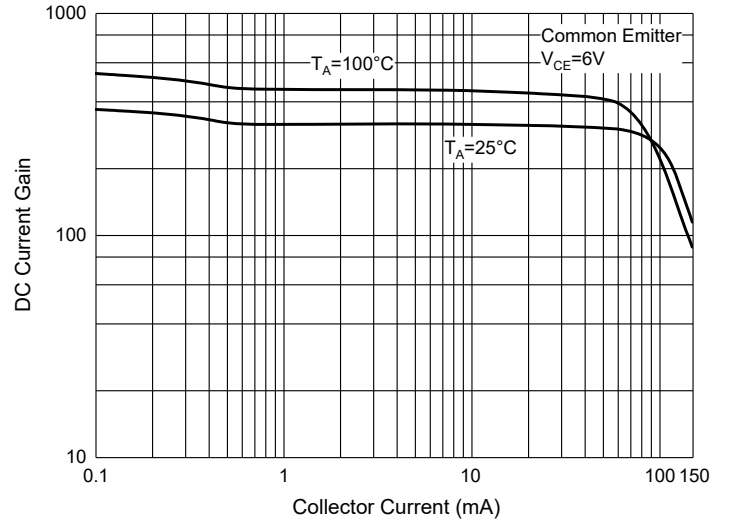


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

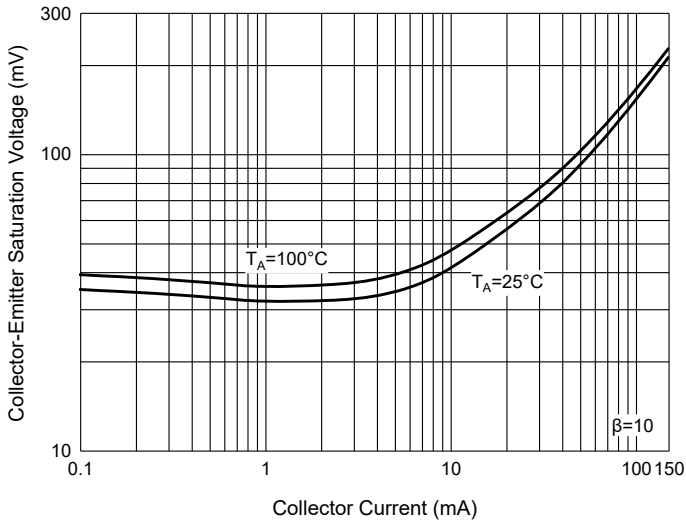


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

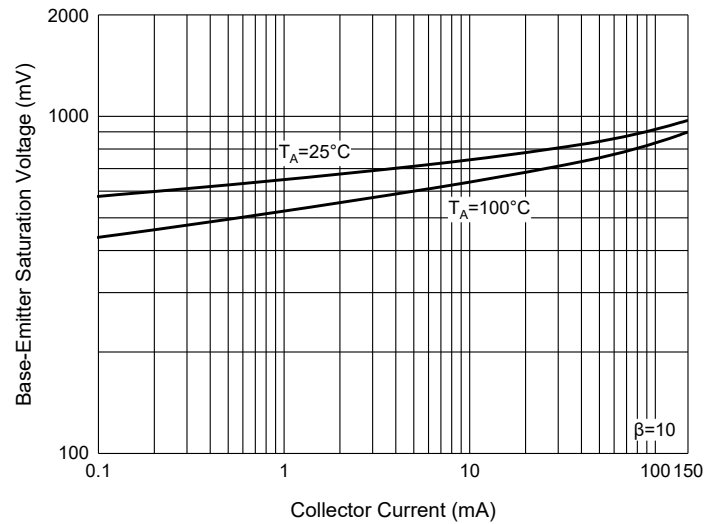


Fig. 5 - Base-Emitter Voltage Characteristics

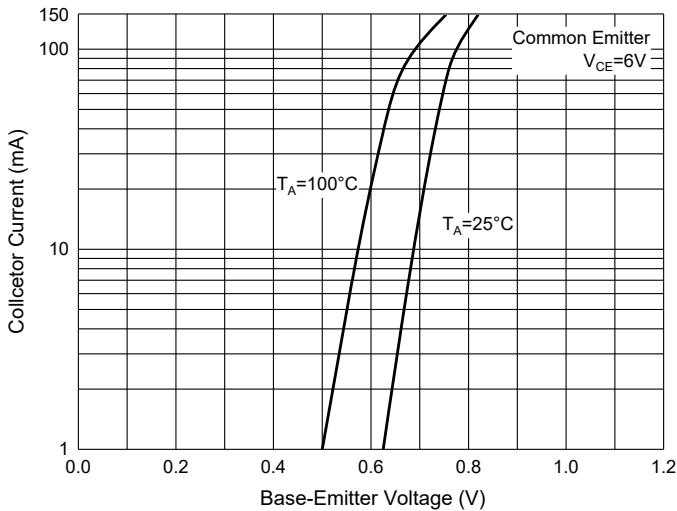
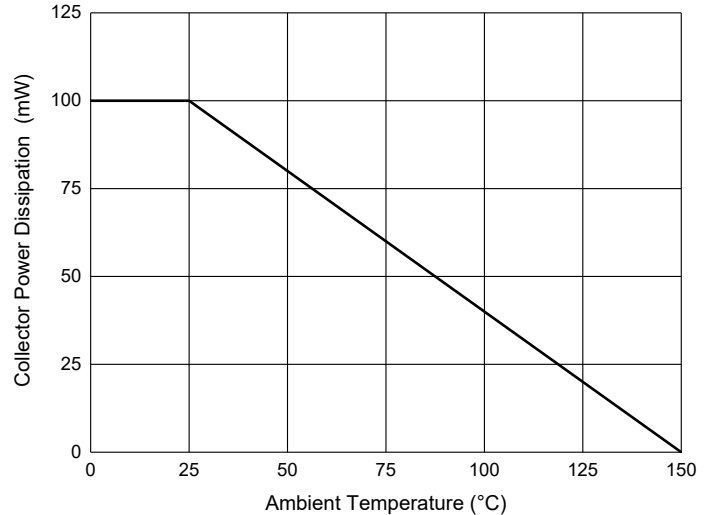


Fig. 6 - Collector Power Derating Curve



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 8Kpcs/Reel

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