

NPN Digital Transistors (Built-in Resistors)



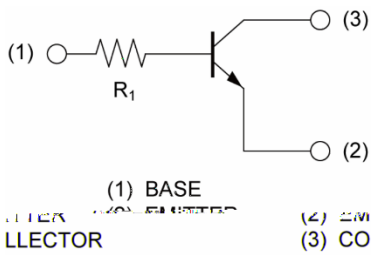
Features

- Moisture Sensitivity Level 1
- Surface mount package ideally Suited for Automatic Insertion
- Epoxy meets UL-94 V-0 flammability rating, halogen-free

Mechanical Data

- Package: SOT-523
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Marking: 03

Equivalent circuit



	SYMBOL	UNIT	CONDITIONS	VALUE	V
Collector-Emitter Voltage	V_{CE0}	V		5	\$
Emitter-Base Voltage	V_{EB0}	V		5	
Collector Current	I_C	mA		1	\$ \$
Power Dissipation	P_D	mW		15	i)
	STG			-55 to +150	



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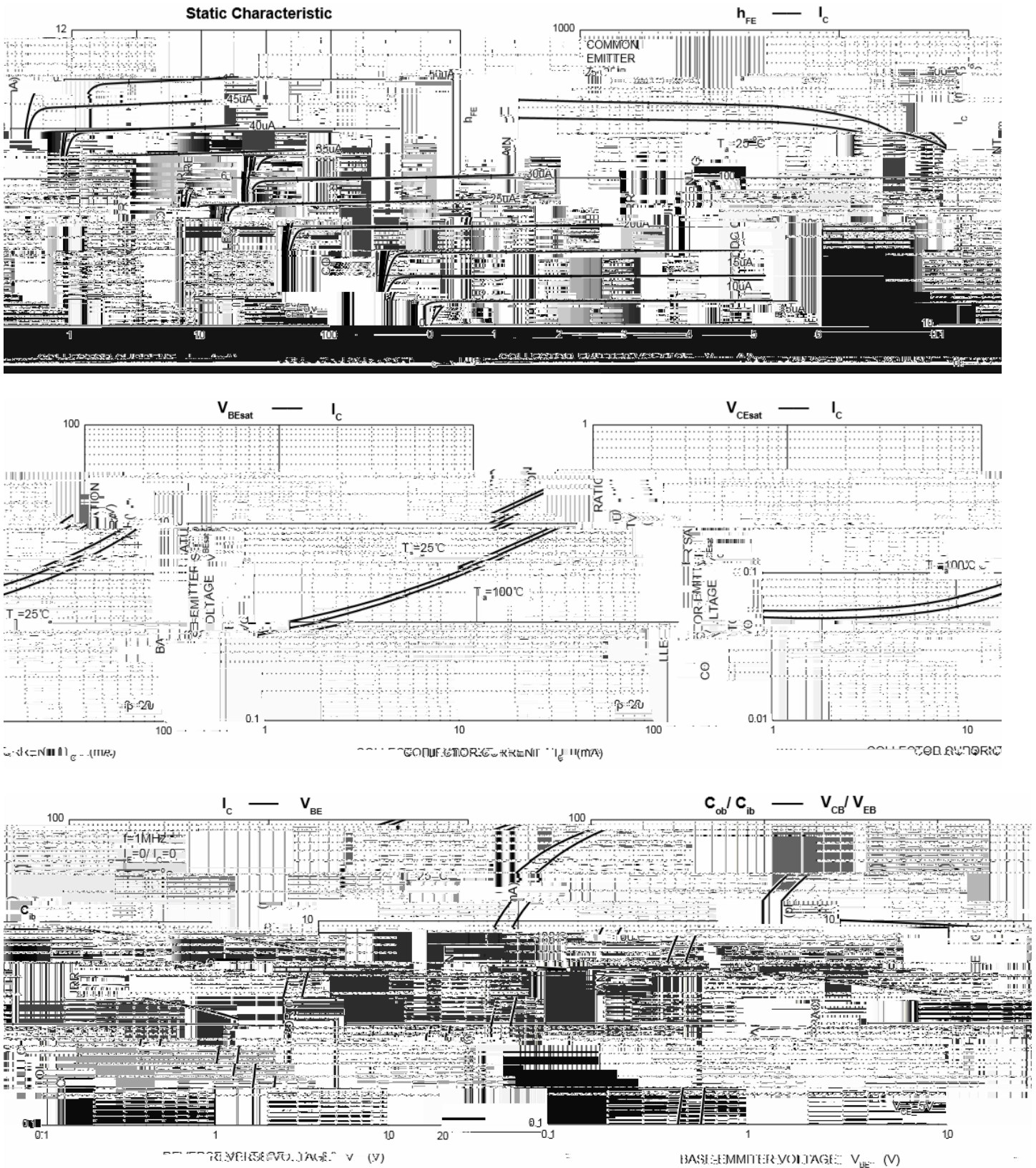
Electrical Characteristics (Ta=25 unless otherwise specified)

ITEM	SYMBOL	UNIT	CONDITIONS	MIN	TYP	MAX
Collector-Base Breakdown Voltage	V_{CBO}	V	$I_C=50\mu A$	50		
Collector-Emitter Breakdown Voltage	V_{CEO}	V	$I_C=1mA$	50		
Emitter-Base Breakdown Voltage	V_{EBO}	V	$I_E=50\mu A$	5		
Collector Cut-off Current	I_{CBO}	μA	$V_{CB}=50V$			0.5
Emitter Cut-off Current	I_{EBO}	μA	$V_{EB}=4V$			0.5
DC current gain	h_{FE}		$V_{CE}=5V, I_C=1mA$	100		600
Input resistance	R_1	k		3.29	4.7	6.11
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=5mA, I_B=0.25mA$			0.3
Transition frequency	f_T	MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$		250	



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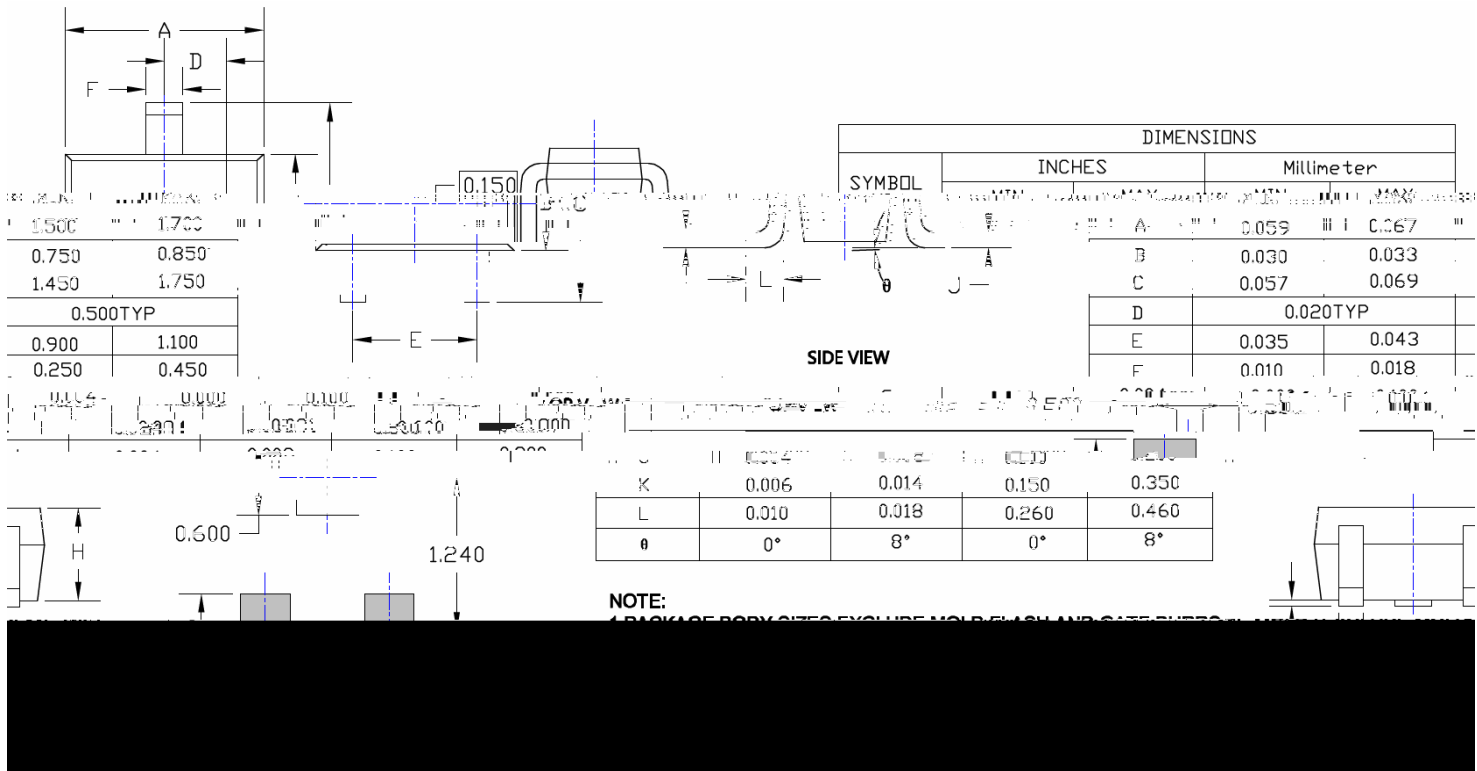
Characteristics (Typical)





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SOT-523 Package Outline Dimensions



Note:

1. All dimensions are in millimeters (mm) unless otherwise specified.





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