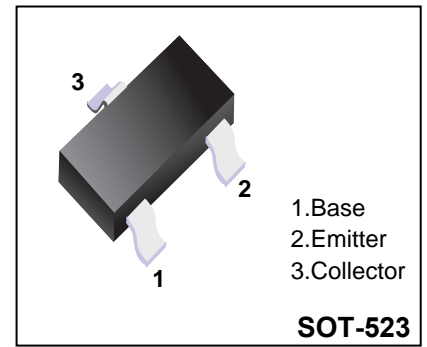


**TRANSISTOR (NPN)**

**FEATURES**

- ◆ Complementary to MMBT5401
- ◆ Ideal for medium power amplification and switching

**MARKING:G1**



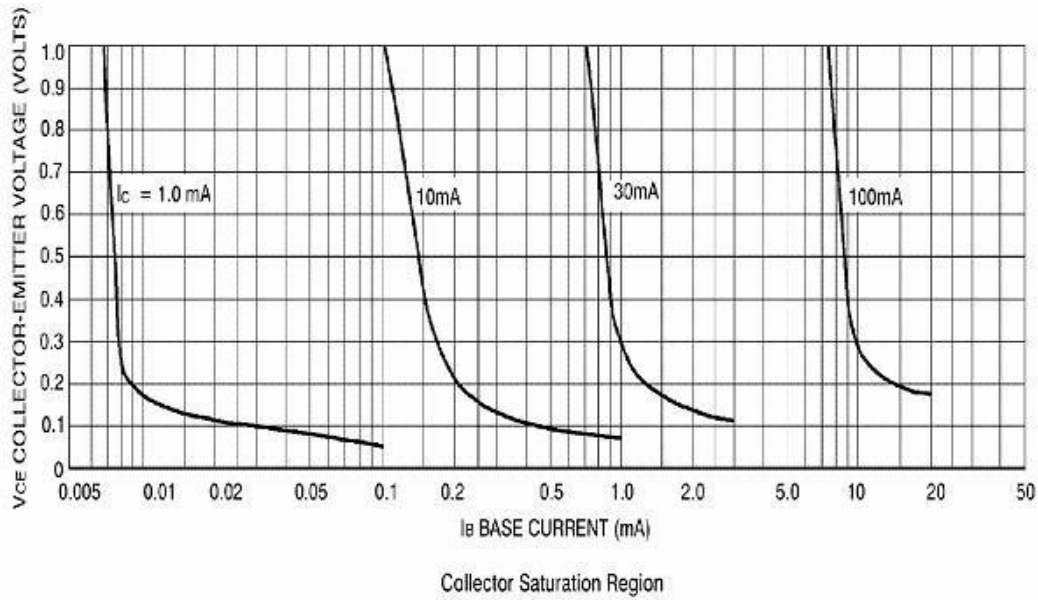
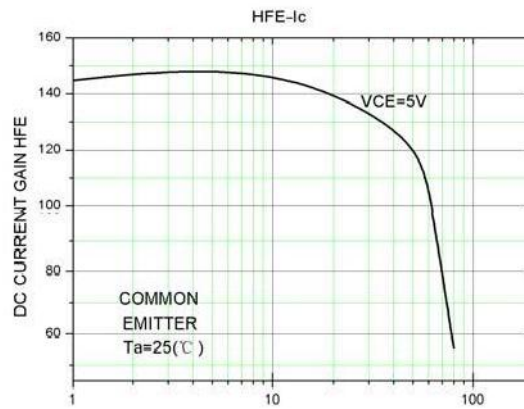
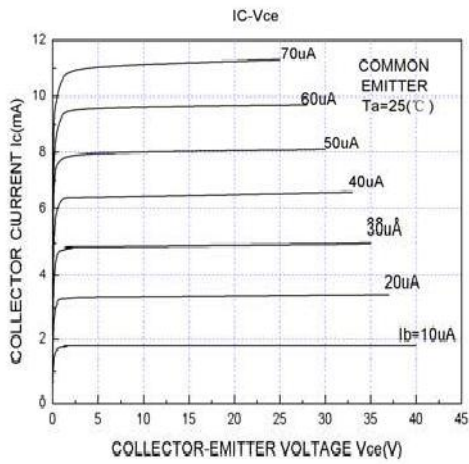
**MAXIMUM RATINGS (Ta=25°C unless otherwise noted)**

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	180	V
$V_{CEO}$	Collector-Emitter Voltage	160	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current -Continuous	0.6	A
$P_C$	Collector Power Dissipation	200	mW
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature	-55-150	°C

**ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=1mA, I_B=0$	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=120V, I_E=0$			50	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4V, I_C=0$			50	nA
DC current gain	$h_{FE1}^*$	$V_{CE}=5V, I_C=1mA$	80			
	$h_{FE2}^*$	$V_{CE}=5V, I_C=10mA$	100		300	
	$h_{FE3}^*$	$V_{CE}=5V, I_C=50mA$	50			
Collector-emitter saturation voltage	$V_{CEsat}^*$	$I_C=10mA, I_B=1mA$			0.15	V
		$I_C=50mA, I_B=5mA$			0.2	
Base-emitter saturation voltage	$V_{BEsat}^*$	$I_C=10mA, I_B=1mA$			1	V
		$I_C=50mA, I_B=5mA$			1	
Transition frequency	$f_T$	$V_{CE}=10V, I_C=10mA, f=100MHz$	100		300	MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$			6	pF
Input capacitance	$C_{ib}$	$V_{BE}=0.5V, I_C=0, f=1MHz$			20	pF
Noise figure	NF	$V_{CE}=5V, I_C=0.25mA, f=10Hz$ to 15.7KHz, $R_s=1k\Omega$			8	dB

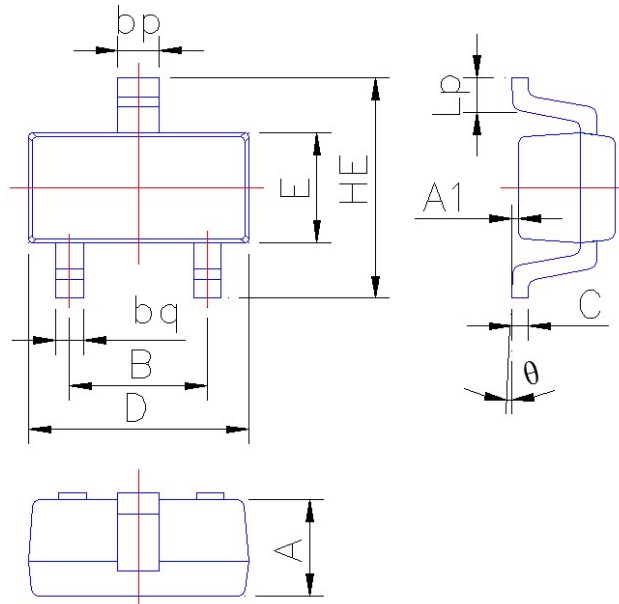
Typical Characteristics



**Package Outline**

**SOT-523**

Plastic surface mounted package; 3 leads



Symbol	Dimension in Millimeters	
	Min	Max
A	0.60	0.80
A1	0.010	0.100
B	0.95	1.05
bp	0.26	0.40
bq	0.16	0.30
C	0.09	0.15
D	1.50	1.70
E	0.70	0.85
HE	1.45	1.75
Lp	0.16	0.36
θ	0°	5°

**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
SOT-523	Tape/Reel,7"reel	3000	EIA-481-1