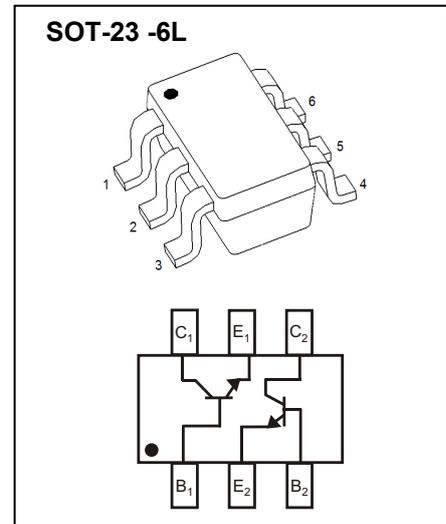


***A A DH)) %GF TRANSISTOR (NPN+NPN)

FEATURES

- Epitaxial Planar Die Construction
- Ideal for Medium Power Amplification and Switching

MARKING: 5551S



MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
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	600	mA
P_C	Collector Power Dissipation	300	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	416	$^\circ\text{C}/\text{W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=1\text{mA}, I_B=0$	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=120\text{V}, I_E=0$			50	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			50	nA
DC current gain	$h_{FE(1)}^*$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	80			
	$h_{FE(2)}^*$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	100		300	
	$h_{FE(3)}^*$	$V_{CE}=5\text{V}, I_C=50\text{mA}$	30			
Collector-emitter saturation voltage	$V_{CE(sat)1}^*$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.15	V
	$V_{CE(sat)2}^*$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.2	V
Base-emitter saturation voltage	$V_{BE(sat)1}^*$	$I_C=10\text{mA}, I_B=1\text{mA}$			1	V
	$V_{BE(sat)2}^*$	$I_C=50\text{mA}, I_B=5\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100		300	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			6	pF

*Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycles $\leq 2.0\%$.

Typical Characteristics

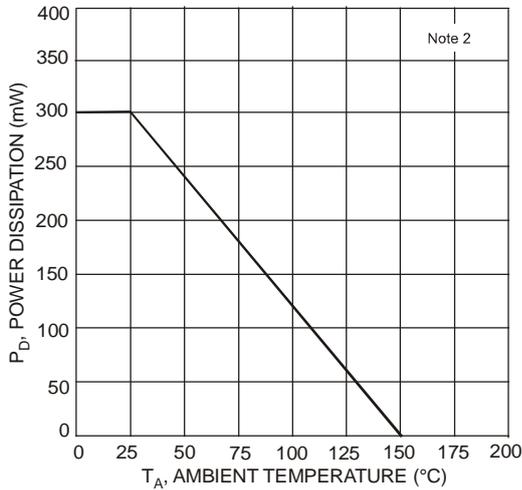


Fig. 1, Max Power Dissipation vs. Ambient Temperature

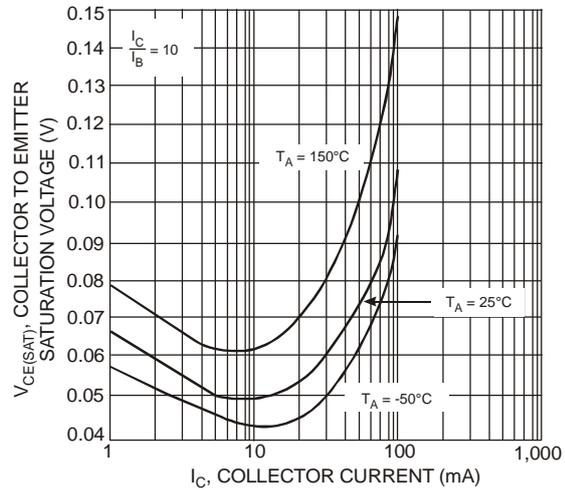


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

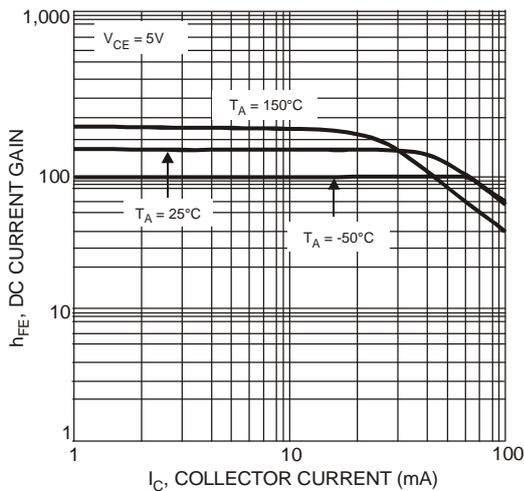


Fig. 3, DC Current Gain vs. Collector Current

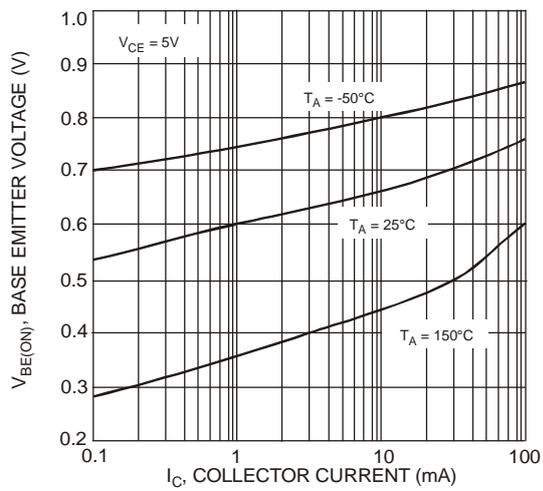


Fig. 4, Base Emitter Voltage vs. Collector Current

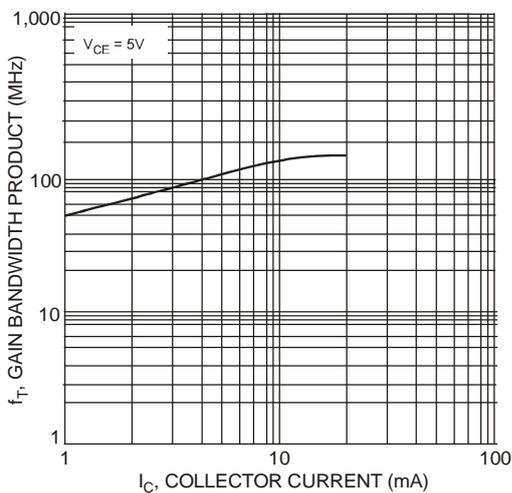


Fig. 5, Gain Bandwidth Product vs. Collector Current