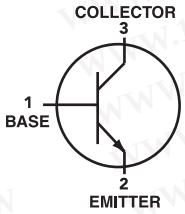
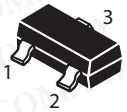
S9014

NPN General Purpose Transistors





SOT-23

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	45	Vdc
Collector-Base Voltage	V_{CBO}	50	Vdc
Emitter-Base VOltage	V_{EBO}	5.0	Vdc
Collector Current-Continuous	I_C	100	mAdc

THERMAL CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (1) TA=25°C Derate above 25°C	P_D	200 1.6	mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	625	°C/W
Junction and Storage, Temperature	$T_{J,Tstg}$	-55 to +150	°C

DEVICE MARKING

S9014=J6

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage (I_C=0.1mAdc .I_B=0)	$V_{(BR)CEO}$	45	-	Vdc
Collector-Base Breakdown Voltage (I_C=100μAdc.I_E=0)	$V_{(BR)CBO}$	50	-	Vdc
Emitter-Base Breakdown Voltage (I_E=100μAdc.I_C=0)	$V_{(BR)EBO}$	5.0	-	Vdc
Collector Cutoff Current (V_{CE}=45V_{dc},I_E= 0)	I_{CEO}	-	0.1	uAdc
Collector Cutoff Current (V_{CB}=50Vdc,I_E=0)	I_{CBO}	-	0.1	uAdc
Emitter Cutoff Current (V_{EB}=5.0Vdc,I_C=0)	I_{EBO}	-	0.1	uAdc

1.FR-5=1.0 x 0.75 x 0.062 in

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ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted) (Countinued)

Characteristics	Symbol	Min	Max	Unit

ON CHARACTERISTICS

DC Current Gain (I_C=1.0 mAdc, V_{CE}=5.0 Vdc)	h_{FE}	200	1000	-
Collector-Emitter Saturation Voltage (I_C=100 mAdc, I_B=5.0mAdc)	$V_{CE(sat)}$	-	0.3	Vdc
Base-Emitter Saturation Voltage (I_C=100 mAdc, I_B=5.0mAdc)	$V_{BE(sat)}$	-	1.0	Vdc
Current-Gain-Bandwidth Product (I_C=10 mAdc, V_{CE}=5.0 Vdc, f=30MHz)	f_T	150	-	MHz

CLASSIFICATION OF h_{FE}

Rank	L	H
Range	200-450	450-1000

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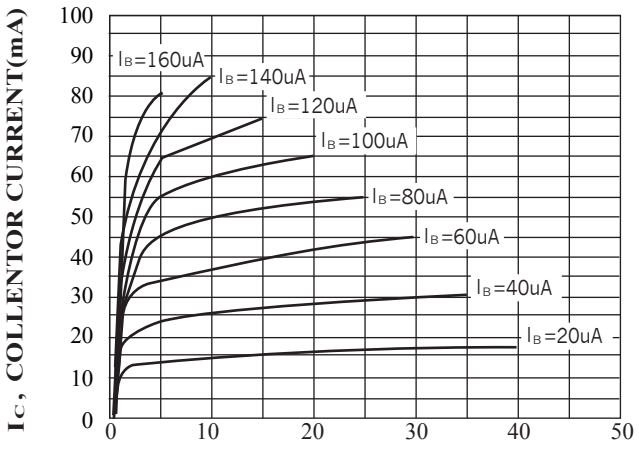

Figure1. Static Characteristic

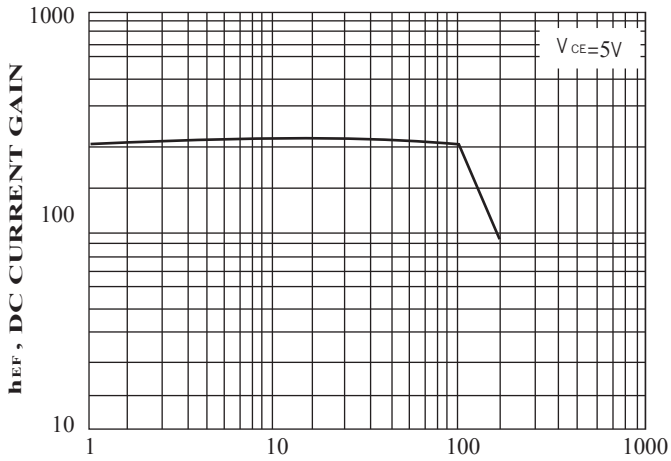

Figure2. DC current Gain

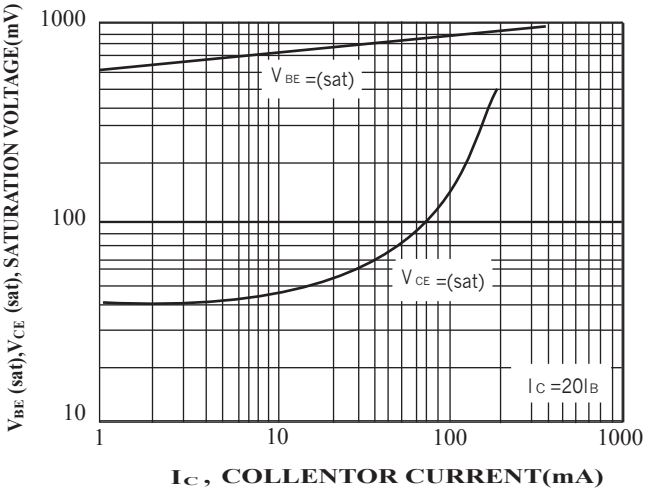

Figure3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

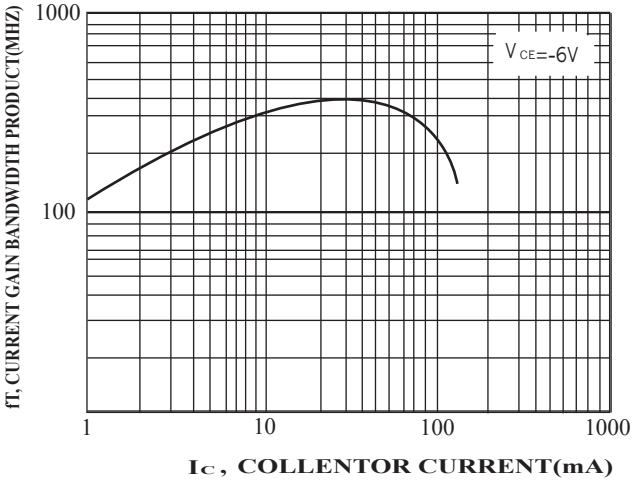

Figure4. Current Gain Bandwidth Product