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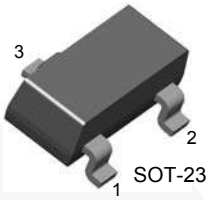
February 2015

KST2907A
PNP Epitaxial Silicon Transistor

Features

- General-Purpose Transistor



SOT-23

1. Base 2. Emitter 3. Collector

Ordering Information

Part Number	Marking	Package	Packing Method
KST2907AMTF	2F	SOT-23 3L	Tape and Reel

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-600	mA
T_{STG}	Storage Temperature	150	°C

Thermal Characteristics[1]

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Max.	Unit
P_D	Total Device Dissipation	350	mW
	Derate Above 25°C	2.8	mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	357	°C/W

Note:

1. PCB size: FR-4, 76 mm x 114 mm x 1.57 mm (3.0 inch x 4.5 inch x 0.062 inch) with minimum land pattern size.

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Max.	Unit
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = -10 μA, I_E = 0	-60		V
BV_{CEO}	Collector-Emitter Breakdown Voltage[2]	I_C = -10 mA, I_B = 0	-60		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = -10 μA, I_C = 0	-5		V
I_{CBO}	Collector Cut-Off Current	V_{CB} = -50 V, I_E = 0		-0.01	μA
h_{FE}	DC Current Gain	V_{CE} = -10 V, I_C = -0.1 mA	75		
		V_{CE} = -10 V, I_C = -1.0 mA	100		
		V_{CE} = -10 V, I_C = -10 mA	100		
		V_{CE} = -10 V, I_C = -150 mA[2]	100	300	
		V_{CE} = -10 V, I_C = -500 mA[2]	50		
V_{CE}(sat)	Collector-Emitter Saturation Voltage[2]	I_C = -150 mA, I_B = -15 mA		-0.4	V
		I_C = -500 mA, I_B = -50 mA		-1.6	
V_{BE}(sat)	Base-Emitter Saturation Voltage[2]	I_C = -150 mA, I_B = -15 mA		-1.3	V
		I_C = -500 mA, I_B = -50 mA		-2.6	
f_T	Current Gain Bandwidth Product	I_C = -50 mA, V_{CE} = -20 V, f = 100 MHz	200		MHz
C_{ob}	Output Capacitance	V_{CB} = -10 V, I_E = 0, f = 1.0 MHz		8	pF
t_{ON}	Turn-On Time	V_{CC} = -30 V, I_C = -150 mA, I_{B1} = -15 mA		50	ns
t_{OFF}	Turn-Off Time	V_{CC} = -6 V, I_C = -150 mA, I_{B1} = I_{B2} = -15mA		110	ns

Note:

2. Pulse test: pulse width ≤ 300 μs, duty cycle ≤ 2.0%.

Typical Performance Characteristics

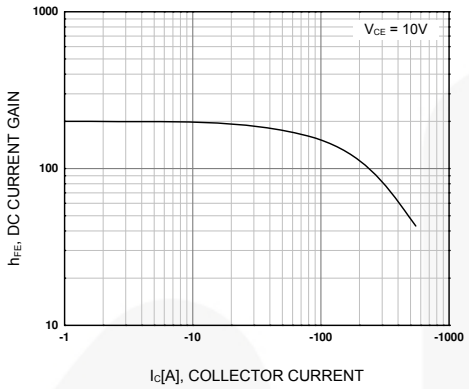


Figure 1. DC Current Gain

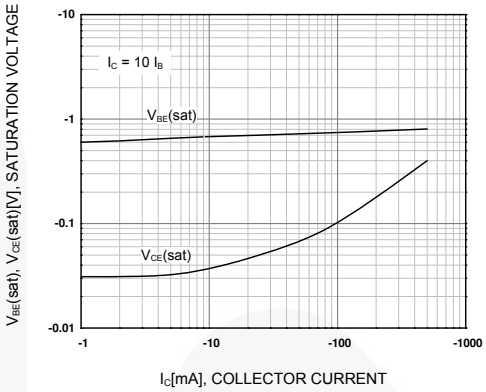


Figure 2. Collector-Emitter Saturation Voltage and Base-Emitter Saturation Voltage

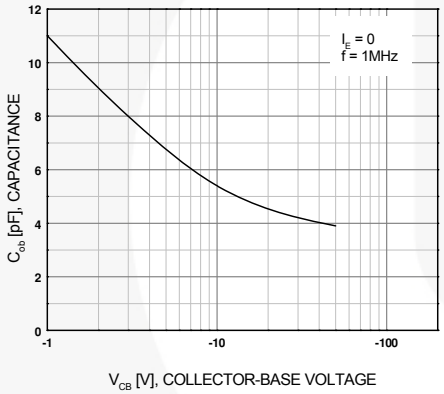


Figure 3. Output Capacitance

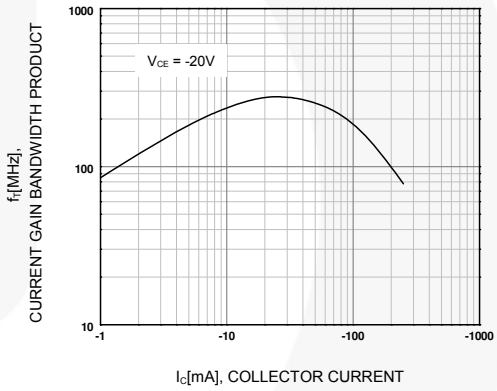


Figure 4. Current Gain Bandwidth Product

Physical Dimensions

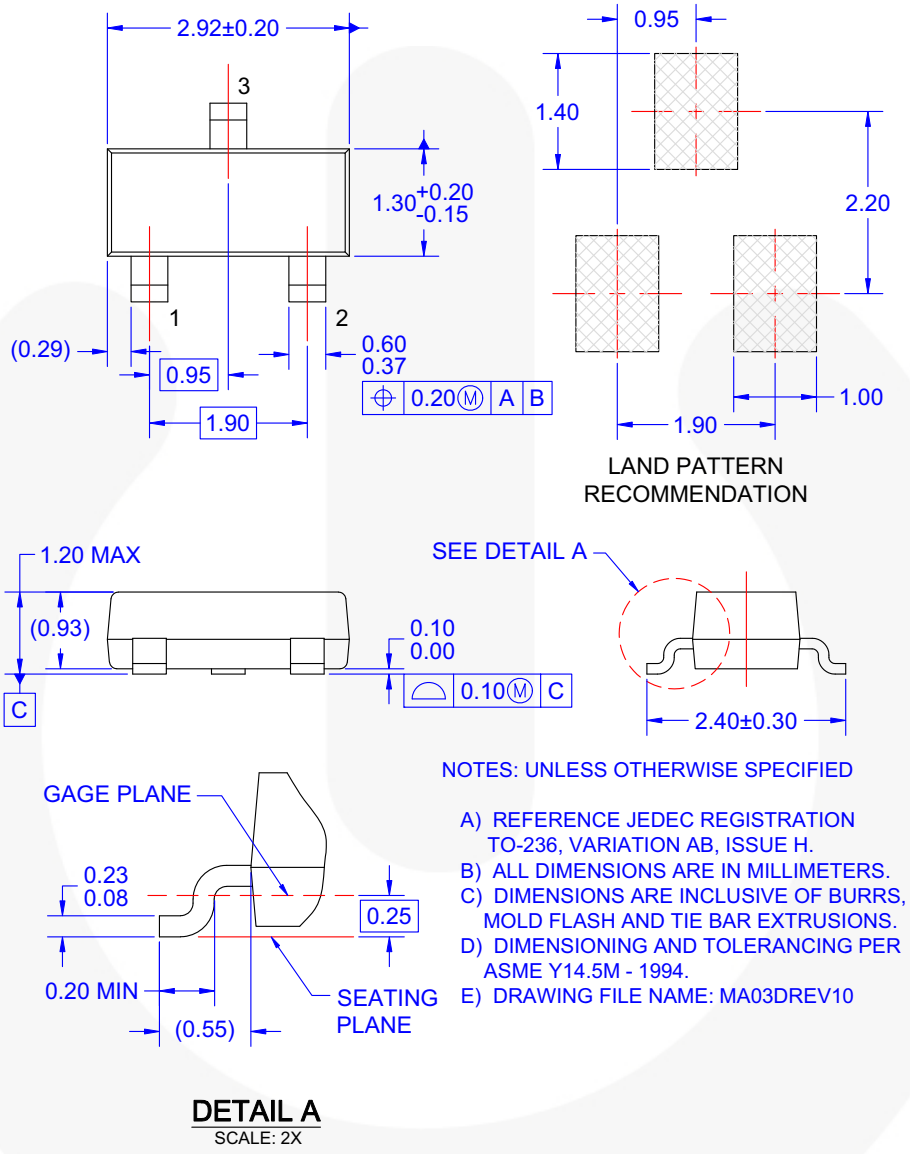


Figure 5. 3-LEAD, SOT23, JEDEC TO-236, LOW PROFILE

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