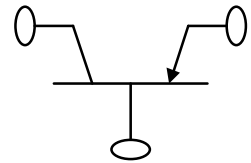


## DIE SPECIFICATION

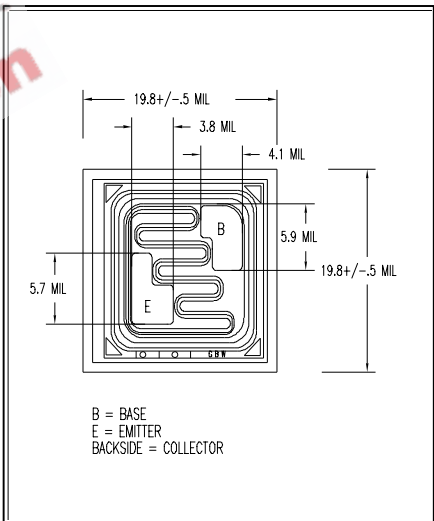
### SWITCHING TRANSISTOR PNP SILICON



#### FEATURES:

- ELECTRICAL PERFORMANCE I.A.W. MIL-PRF-19500/291
- AVAILABLE IN WAFER OR CHIP FORM FOR HYBRID APPLICATIONS
- GENERAL PURPOSE-HIGH SPEED SWITCHING APPLICATIONS
- LOW  $V_{CE(sat)}$ : .4V @  $I_C = 150 \text{ mAdc}$

**PHYSICAL DIMENSIONS**



#### Absolute Maximum Ratings:

Symbol	Parameter	Limit	Unit
$V_{ce}$	Collector-Emitter Voltage	60	Vdc
$V_{cb}$	Collector-Base Voltage	60	Vdc
$V_{eb}$	Emitter-Base Voltage	5.0	Vdc
$I_c$	Collector Current- Continuous	600	mAdc
$T_j, T_{stg}$	Operating Junction & Storage Temperature Range	-65 to +200	°C

**Packaging Options:**  
W: Wafer (100% probed)    U: Wafer (sample probed)  
D: Chip (Waffle Pack)    B: Chip (Vial)  
V: Chip (Waffle Pack, 100% visually inspected)    X: Other

**Processing Options:**  
Standard: Capable of JANTXV applications (No Suffix)  
Suffix C: Commercial  
Suffix S: Capable of S-Level equivalent applications

**Metallization Options:**  
Standard: Al Top    /    Au Backside (No Dash #)  
Dash 1: Al Top    /    TiPdAg Backside

**ORDERING INFORMATION:**  
PART #: 2N2907A\_ \_ - \_  
First Suffix Letter: Packaging Option  
Second Suffix Letter: Processing Option  
Dash #: Metallization Option

Serotech reserves the right to make changes to any product design, specification, or other information at any time without prior notice.

## Electrical Characteristics @ T<sub>j</sub> = 25 °C

Symbol	Parameter	Conditions	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>					
V(BR)CBO	Breakdown Voltage, Collector to Base	Bias Cond. D, I <sub>C</sub> =10uAdc	60		Vdc
V(BR)EBO	Breakdown Voltage, Emitter to Base	Bias Cond. D, I <sub>E</sub> =10uAdc	5		Vdc
V(BR)CEO	Breakdown Voltage, Collector to Emitter	Bias Cond. D, I <sub>C</sub> = 10mAdc, pulsed	60		Vdc
ICES	Collector to Emitter Cutoff Current	Bias Cond. D, V <sub>CE</sub> =50Vdc		50	nAdc
ICBO1	Collector to Base Cutoff Current	Bias Cond. D, V <sub>CB</sub> =50Vdc		10	nAdc
IEBO	Emitter to Base Cutoff Current	Bias Cond. D, V <sub>EB</sub> = 4Vdc		50	nAdc
<b>ON CHARACTERISTICS</b>					
hFE1	Forward-Current Transfer Ratio	V <sub>CE</sub> =10Vdc, I <sub>C</sub> =0.1mAdc		75	
hFE2	Forward-Current Transfer Ratio	V <sub>CE</sub> =10Vdc, I <sub>C</sub> =1.0mAdc	100	450	
hFE3	Forward-Current Transfer Ratio	V <sub>CE</sub> =10Vdc, I <sub>C</sub> =10mAdc	100		
hFE4	Forward-Current Transfer Ratio	V <sub>CE</sub> =10Vdc, I <sub>C</sub> =150mAdc, pulsed	100	300	
hFE5	Forward-Current Transfer Ratio	V <sub>CE</sub> =10Vdc, I <sub>C</sub> =500mAdc, pulsed	50		
V <sub>CE(sat)1</sub>	Collector to Emitter Saturation Voltage	I <sub>C</sub> =150mAdc, I <sub>B</sub> =15mAdc, pulsed		0.4	Vdc
V <sub>CE(sat)2</sub>	Collector to Emitter Saturation Voltage	I <sub>C</sub> =500mAdc, I <sub>B</sub> =50mAdc, pulsed		1.6	Vdc
V <sub>BE(sat)1</sub>	Base to Emitter Saturation Voltage	I <sub>C</sub> =150mAdc, I <sub>B</sub> =15mAdc, pulsed	0.6	1.3	Vdc
V <sub>BE(sat)2</sub>	Base to Emitter Saturation Voltage	I <sub>C</sub> =500mAdc, I <sub>B</sub> =50mAdc, pulsed		2.6	Vdc
<b>SMALL SIGNAL CHARACTERISTICS</b>					
h <sub>fe</sub>	Short Circuit Forward Current Xfer Ratio	V <sub>CE</sub> = 10Vdc, I <sub>C</sub> =1mAdc, f= 1kHz	100		
/h <sub>fe</sub> /	Magnitude of Short Circuit Forward Current Transfer Ratio	V <sub>CE</sub> = 20Vdc, I <sub>C</sub> =50mAdc, f=100MHz	2		
C <sub>obo</sub>	Output Capacitance	V <sub>CB</sub> = 10Vdc, I <sub>E</sub> =0, 100kHz< f <1MHz		8	pF
C <sub>ibo</sub>	Input Capacitance	V <sub>EB</sub> = 2.0Vdc, I <sub>C</sub> =0, 100kHz< f <1MHz		30	pF
<b>SWITCHING CHARACTERISTICS</b>					
t <sub>on</sub>	Saturated Turn-on Time	As defined in 19500/291 Figure 7		45	nS
t <sub>off</sub>	Saturated Turn-off Time	As defined in 19500/291 Figure 8		300	nS