

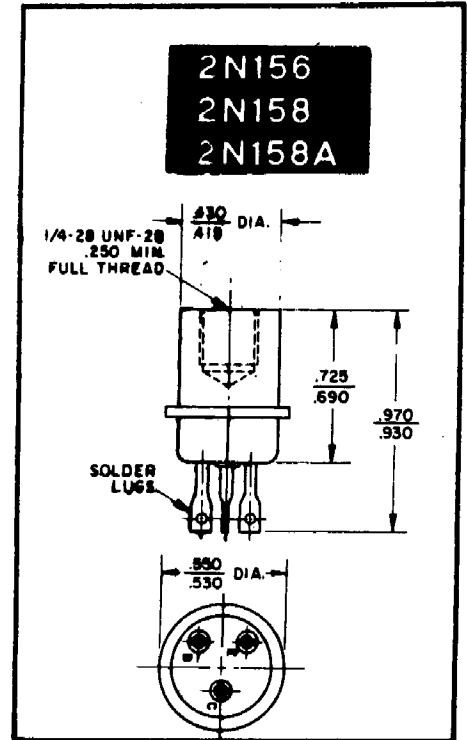
## PNP GERMANIUM ALLOY JUNCTION POWER TRANSISTORS

Conforming in all respects to the latest EIA configuration, these devices fit within the standard TO-13 case outline and have matched glass-to-metal seals. These transistors, designed for maximum performance and reliability, may be used in a variety of applications including relay control and servo amplifiers as well as low speed switching oscillators and audio power applications.

The combined features of welded cases and hermetically sealed glass-to-metal terminals provide maximum protection against environmental extremes. Widely spaced terminal lugs are plated to facilitate lead attachment in production and are securely anchored to prevent possible damage in use. All heat sink surfaces are plated to avoid corrosion, which would otherwise introduce electrical or thermal discontinuities.

### DESIGN LIMITS

	2N156	2N158	2N158A
Collector to base voltage, $V_{CB}$	-30	-60	-80 Vdc
Collector to emitter voltage, $V_{CE}$	-30	-60	-60 Vdc
Emitter to base voltage, $V_{EB}$	-15	-30	-30 Vdc
Collector Current, $I_{C,C}$	3	3	3A
Operating and Junction Temp, $T_j$	-65 to +100°C		
Thermal Resistance, Junction to mounting base	3	3	3°C/W



### CHARACTERISTICS AT 25° C

<b>Collector Cut-off Current, <math>I_{CBO}</math></b>		
2N156	$V_{CB} = -30$ Vdc	1.0 mAdc Max.
2N158	$V_{CB} = -60$ Vdc	1.0 mAdc Max.
2N158A	$V_{CB} = -80$ Vdc	1.0 mAdc Max.
<b>Collector Cut-off Characteristics, <math>I_{CBO}</math></b>		
2N156	$V_{CB} = -30$ Vdc; $T_A = 85^\circ\text{C}$	10 mAdc Max.
2N158	$V_{CB} = -60$ Vdc; $T_A = 85^\circ\text{C}$	10 mAdc Max.
2N158A	$V_{CB} = -80$ Vdc; $T_A = 85^\circ\text{C}$	10 mAdc Max.
<b>Collector Cut-off Current, <math>I_{CES}</math></b>		
2N156	$V_{CB} = -30$ Vdc	1.5 mAdc Max.
2N158	$V_{CB} = -60$ Vdc	1.5 mAdc Max.
2N158A	$V_{CB} = -60$ Vdc	1.5 mAdc Max.
<b>Collector to Emitter Breakdown Voltage, <math>BV_{CEO}</math></b>		
2N156		
2N158		
2N158A	$I_C = 250$ mAdc	60 Vdc Min.
<b>Emitter Cut-off Current, <math>I_{EBO}</math></b>		
2N156	$V_{EB} = -15$ Vdc	0.5 mAdc Max.
2N158	$V_{EB} = -30$ Vdc	0.5 mAdc Max.
2N158A	$V_{EB} = -30$ Vdc	0.5 mAdc Max.

<b>Current Gain, Common Emitter, <math>H_{FE}</math></b>		
2N156	$I_C = 500$ mAdc; $V_{CE} = -2.0$ Vdc	25 min.
2N158		21 min.
2N158A		21 min.
<b>Base to Emitter Voltage, <math>V_{BE}</math></b>		
2N156	$I_C = 500$ mAdc; $V_{CE} = -2.0$ Vdc	0.70 Vdc Max.
2N158		0.85 Vdc Max.
2N158A		0.85 Vdc Max.
<b>Saturation Voltage, <math>V_{CE(Sat)}</math></b>		
2N156	$I_C = 1$ Adc; $I_B = 150$ mA	0.75 Vdc Max.
2N158		
2N158A		
<b>Thermal Resistance, <math>\theta</math></b>		
2N156		3°C/W Max.
2N158		
2N158A		
<b>Cut-off Frequency, <math>f_{hfc}</math></b>		
2N156	$I_C = 0.5$ A; $V_{CE} = -2$ V	4 Kc Min.
2N158		4 Kc Min.
2N158A		4 Kc Min.

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