

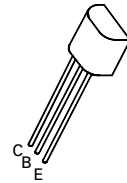
# NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

**2N6716  
2N6717  
2N6718**

**ISSUE 1 – MARCH 94**

## FEATURES

- \* 100 Volt  $V_{CE0}$
- \* Gain of 20 at  $I_C = 0.5$  Amp
- \*  $P_{tot} = 1$  Watt



**E-Line  
TO92 Compatible**

## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	2N6716	2N6717	2N6718	UNIT
Collector-Base Voltage	$V_{CBO}$	60	80	100	V
Collector-Emitter Voltage	$V_{CEO}$	60	80	100	V
Emitter-Base Voltage	$V_{EBO}$	5			V
Peak Pulse Current	$I_{CM}$	2			A
Continuous Collector Current	$I_C$	1			A
Power Dissipation at $T_{amb} = 25^\circ\text{C}$	$P_{tot}$	1			W
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 to +200			$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	2N6716		2N6717		2N6718		UNIT	CONDITIONS.
		MIN.	MAX	MIN.	MAX	MIN.	MAX		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60		80		100		V	$I_C = 0.1\text{mA}, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	60		80		100		V	$I_C = 1\text{mA}, I_B = 0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		5		5		V	$I_E = 1\text{mA}, I_C = 0$
Collector Cut-Off Current	$I_{CBO}$		1		1		1	$\mu\text{A}$	$V_{CB} = 60\text{V}, I_E = 0$ $V_{CB} = 80\text{V}, I_E = 0$ $V_{CB} = 100\text{V}, I_E = 0$
Emitter Cut-Off Current	$I_{EBO}$		1		1		1	$\mu\text{A}$	$V_{EB} = 5\text{V}, I_C = 0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.5 0.35		0.5 0.35		0.5 0.35	V	$I_C = 250\text{mA}, I_B = 10\text{mA}^*$ $I_C = 250\text{mA}, I_B = 25\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.2		1.2		1.2	V	$I_C = 250\text{mA}, V_{CE} = 1\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	80 50 20	250	80 50 20	250	80 50 20	250		$I_C = 50\text{mA}, V_{CE} = 1\text{V}^*$ $I_C = 250\text{mA}, V_{CE} = 1\text{V}^*$ $I_C = 500\text{mA}, V_{CE} = 1\text{V}^*$
Transition Frequency	$f_T$	50	500	50	500	50	500	MHz	$I_C = 50\text{mA}, V_{CE} = 10\text{V}$
Collector Base Capacitance	$C_{CB}$		30		30		30	pF	$V_{CE} = 10\text{V}, f = 1\text{MHz}$

\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$