

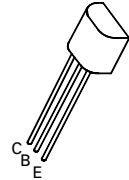
NPN SILICON PLANAR MEDIUM POWER TRANSISTORS

ISSUE 1 – MARCH 94

FEATURES

- * 40 Volt V_{CEO}
- * Gain of 50 at $I_C = 1$ Amp
- * $P_{tot} = 1$ Watt

2N6714
2N6715



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	2N6714	2N6715	UNIT
Collector-Base Voltage	V_{CBO}	40	50	V
Collector-Emitter Voltage	V_{CEO}	30	40	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	2N6714		2N6715		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	40		50		V	$I_C = 1\text{mA}$, $I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30		40		V	$I_C = 10\text{mA}$, $I_B = 0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		5		V	$I_E = 1\text{mA}$, $I_C = 0$
Collector Cut-Off Current	I_{CBO}		0.1		0.1	μA	$V_{CB} = 40\text{V}$, $I_E = 0$ $V_{CB} = 50\text{V}$, $I_E = 0$
Emitter Cut-Off Current	I_{EBO}		0.1		0.1	μA	$V_{EB} = 5\text{V}$, $I_C = 0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.5		0.5	V	$I_C = 1\text{A}$, $I_B = 100\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.2		1.2	V	$I_C = 1\text{A}$, $V_{CE} = 1\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	55 60 50	250	55 60 50	250		$I_C = 10\text{mA}$, $V_{CE} = 1\text{V}^*$ $I_C = 100\text{mA}$, $V_{CE} = 1\text{V}^*$ $I_C = 1\text{A}$, $V_{CE} = 1\text{V}^*$
Transition Frequency	f_T	50	500	50	500	MHz	$I_C = 50\text{mA}$, $V_{CE} = 10\text{V}$
Collector Base Capacitance	C_{CB}		30		30	pF	$V_{CE} = 10\text{V}$, $f = 1\text{MHz}$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$