

Appendix VI

Mathematical Expressions

+	plus/and	∞	infinity
-	minus/take away	\propto	varies as/is proportional to
\pm	plus or minus	3:9::4:12	three is to nine as four is to twelve
x (is)	multiplied by/times (or when giving dimensions by)	\log_e	natural logarithm or logarithm to the base e
÷ (is)	divided by	$\sqrt{\quad}$	(square) root
=	is equal to/equals	$\sqrt[3]{\quad}$	cube root
\neq	is not equal to/does not equal	x^2	x/squared
\approx	is approximately equal to	x^3	x/cubed
\equiv	is equivalent to/is identical with	x^4	x/s/to the power of four/to the fourth
<	is less than	p	pi/pai/
\nless	is not less than	r/a:(r)	r = radius of a circle
\leq	is less than or equal to	\int	the integral of
>	is more than	$^\circ$	degree
\nless	is not more than	'	minute (of an arc); foot or feet (unit of length)
\geq	is more than or equal to	"	second (of an arc); inch or inches (unit of length)
%	per cent		

Mathematical Symbols Used in Electrical Engineering and Electronics

SYMBOL	EXAMPLE	MEANING IN FULL
.	3.14159	three point one four one five nine
+	$R_1 + R_2$	R one plus R two
-	$V - V_1$	V minus V one
\pm	$\pm 3\text{dB}$	plus or minus three decibels
=	$R = R_1 + R_2$	R equals/is equal to R one plus R two
\approx or \simeq	$I \approx 28\text{mA}$	I is approximately equal to twenty eight milliamps
x	f x 120	f times/multiplied by one hundred and twenty
no sign between two quantities	$E = IR$	E equals I times/multiplied by R
one quantity over another	$\frac{I}{R}$	I over/divided by R The ratio of I to R
\propto	$I \propto V$	I is proportional to V
:	11:1	eleven to one
%	10%	ten per cent
$^\circ$	30 $^\circ$ C	thirty degrees celcius (Centigrade)
$\sqrt{\quad}$	$\sqrt{5}$	the square root of root of five
2	R^2	R squared; X cubed
3	X^3	X cubed
$^{10^4}$	10^4	ten to the power four; ten to the power minus eight
>	> 10dB	greater than ten decibels
<	< 25mA	less than twenty-five milliamps
\leq	$\leq 5\text{W}$	less than or equal to five watts