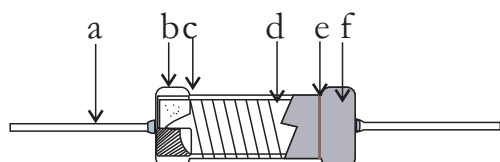


## ● Features

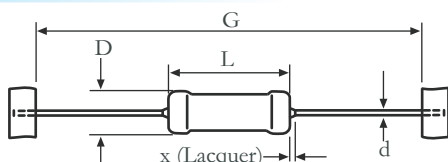
- I Ceramic core
- II High Al<sub>2</sub>O<sub>3</sub>
- III Non-flammable cement coating
- IV High power dissipation in small volume
- V Perfect for high pulse application

## ● Constructions



a	Lead wire
b	Cap
c	Ceramic core
d	Wire wound
e	Marking or color code
f	Insulation coat

## ● Dimensions



Type	Power (W)	Dimensions(mm) [inches]					Weight(g) per unit
		Dmax	Lmax	d	Xmax	G	
ACR01	1W	4.3[0.169]	11[0.433]	0.7 ± 0.03 [0.028 ± 0.001]	2	63 ± 1 [2.480 ± 0.039]	0.52
ACR03	3W	4.8[0.189]	13[0.512]		2	63 ± 1 [2.480 ± 0.039]	0.75
ACR04	4W	5.5[0.217]	16.5[0.650]	0.8 ± 0.03 [0.031 ± 0.001]	3	63 ± 1 [2.480 ± 0.039]	1.10
ACR05	5W	7.5[0.295]	18[0.709]		3	63 ± 1 [2.480 ± 0.039]	0.90
ACR07	7W	7.5[0.295]	26[1.024]		3	73 ± 1 [2.874 ± 0.039]	2.60
ACR10	10W	10.3[0.405]	46.8[1.84]		3	120 ± 1 [3.465 ± 0.039]	4.50

## ● Ordering Information

Example:

ACR	01	F	4R7	M	B
(1)	(2)	(3)	(4)	(5)	(6)
Series Name	Power Rating	Resistance Tolerance	Resistance	Forming	Packing

(1) Type: ACR SERIES

(2) Power Rating: 01=1W、03=3W、04=4W、05=5W、07=7W、10=10W

(3) Tolerance: F=±1%、G=±2%、H=±3%、J=±5%

(4) Resistance Value: 4R7=4.7R、R10=0.1Ω、47R0=47Ω

(5) Forming: M type; F type; K type etc.

(6) Packing: B=Bulk, T=Tape&Reel

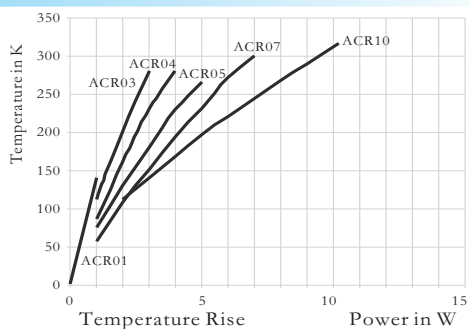
## ● Reference Standards

IEC 60115-1

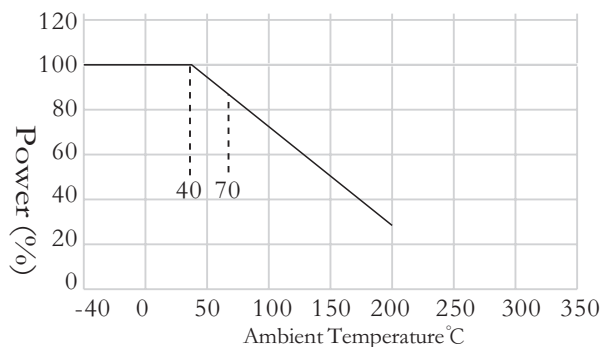
## Applications And Ratings

Type	Power Rating at 40°C	Power Rating at 70°C	Limiting Voltage $U_{max}$	Resistance Range(1) $\Omega$ TCR = -10ppm/k to -80ppm/k	Resistance Range(1) $\Omega$ TCR = 100ppm/k to 180ppm/k	Resistance Range(1) $\Omega$ TCR = 100ppm/k	Tolerance $\pm\%$
ACR01	1	0.9	$\sqrt{P \times R}$	0.01 to 33	36 to 2.4K	n/a	5
ACR03	3	2.5	$\sqrt{P \times R}$	0.01 to 390	430 to 3.3K	3.6K to 5.1K	5
ACR04	4	3.5	$\sqrt{P \times R}$	0.01 to 620	680 to 6.8K	n/a	5
ACR05	5	4.7	$\sqrt{P \times R}$	0.01 to 910	1K to 10K	n/a	5
ACR07	7	5.8	$\sqrt{P \times R}$	0.01 to 1.5K	1.6K to 15K	n/a	5
ACR10	10	8.4	$\sqrt{P \times R}$	0.01 to 560	620 to 27K	n/a	5

## Surface Temperature Rise

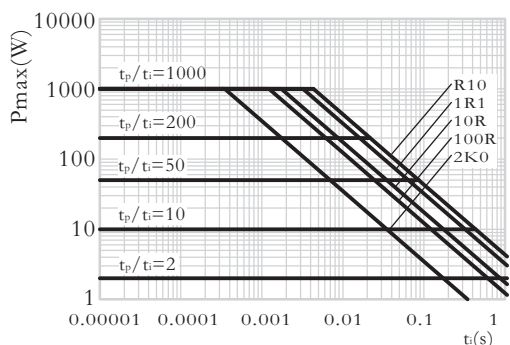


## Derating Curve

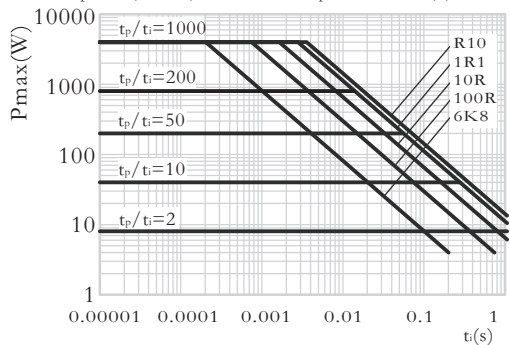


## Pulse Voltage Overload Test

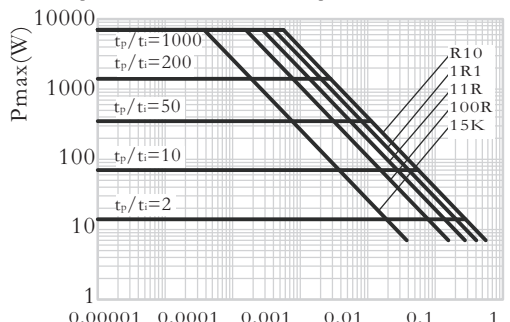
### I PULSE DIAGRAMS



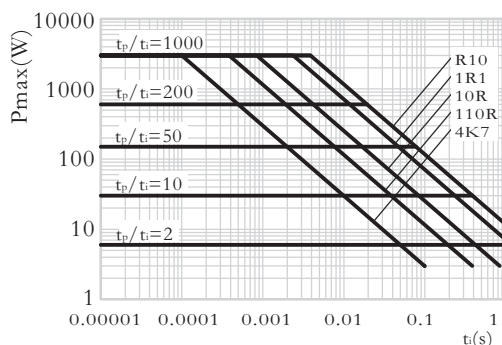
ACR01 Pulse on a regular basis; maximum permissible peak pulse power ( $\hat{P}_{max}$ ) as a function of pulse duration ( $t_i$ )



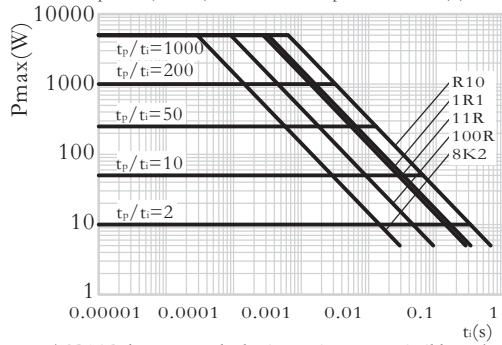
ACR03 Pulse on a regular basis; maximum permissible peak pulse power ( $\hat{P}_{max}$ ) as a function of pulse duration ( $t_i$ )



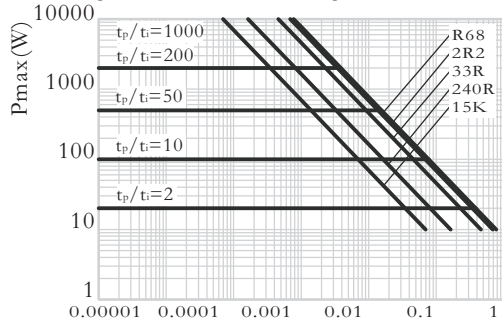
ACR04 Pulse on a regular basis; maximum permissible peak pulse power ( $\hat{P}_{max}$ ) as a function of pulse duration ( $t_i$ )



ACR05 Pulse on a regular basis; maximum permissible peak pulse power ( $\hat{P}_{max}$ ) as a function of pulse duration ( $t_i$ )

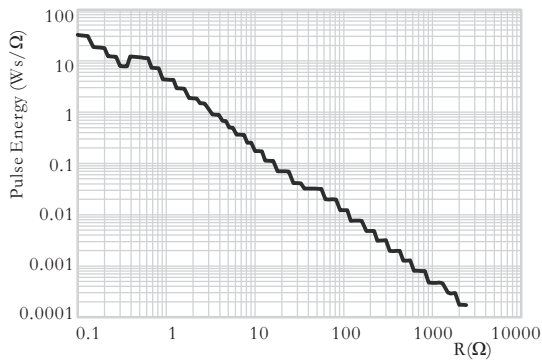


ACR07 Pulse on a regular basis; maximum permissible peak pulse power ( $\hat{P}_{max}$ ) as a function of pulse duration ( $t_i$ )

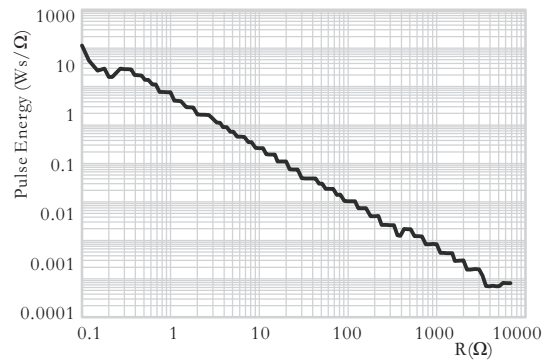


ACR10 Pulse on a regular basis; maximum permissible peak pulse power ( $\hat{P}_{max}$ ) as a function of pulse duration ( $t_i$ )

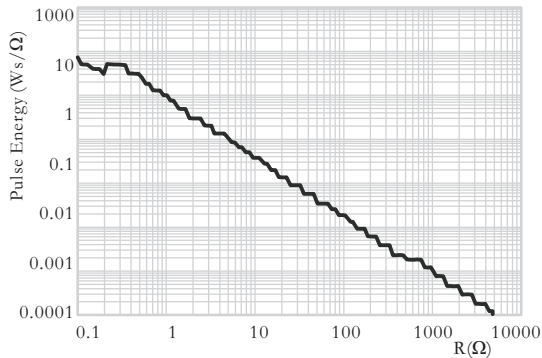
## II PULSE DIAGRAMS



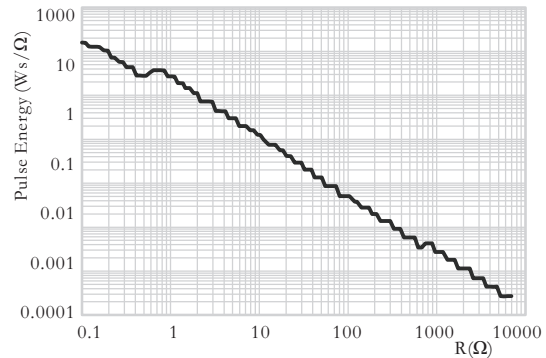
ACR01 Pulse capability; E (Ws) as a function of R (Ω)



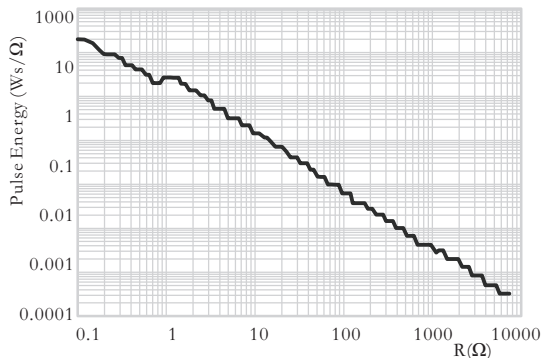
ACR03 Pulse capability; E (Ws) as a function of R (Ω)



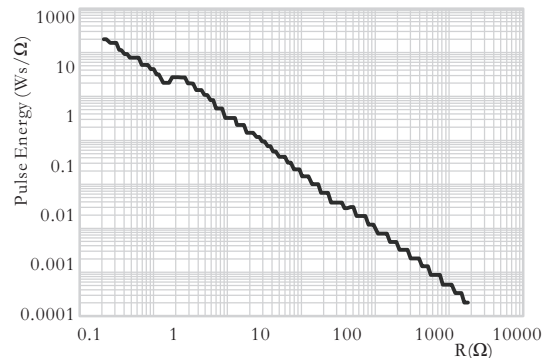
ACR04 Pulse capability; E (Ws) as a function of R (Ω)



ACR05 Pulse capability; E (Ws) as a function of R (Ω)



ACR07 Pulse capability; E (Ws) as a function of R (Ω)



ACR10 Pulse capability; E (Ws) as a function of R (Ω)

## ● Performance Characteristics

Test Items	Performance Requirements	Test Methods(IEC 60115-1)
Resistance	Within specified tolerance	Measuring points are 10mm from the end cap
T.C.R.	Within specified	Room temperature+100°C
Short time overload	T.C.R ± (2%+0.1Ω)	10 times of the rated power for 5 seconds
Load life	± (5%R+0.1Ω)	Rated voltage at 70°C for 1,000 hours 1.5hr ON/0.5hr OFF Cycles
Load life in humidity	± (5%R+0.1Ω)	Rated voltage at 40°C ,95%RH for 1,000 hours
Moisture resistance	± (1%R+0.05Ω)	40°C ,95%RH for 240 hours
Temperature cycle	± (1%R+0.05Ω)	At -55°C for 30min, time at +25°C for 10-15min,time at +155°C for 30min, time at +25°C for 10-15min,total 5cycles.
Solderability	95%(min)coverage	Temp. of solder 245°C ± 5°C duration of immersion 3s ± 0.5s
Resistance to soldering heat	± (0.5%R+0.05Ω)	260°C ± 5°C for 10 seconds 350°C ± 10°C for 3.5 seconds
Insulation resistance	> 1,000MΩ	500V insulation test for 1min.
Flameproof	No evidence of flaming or arcing	AC voltage of 2,4,6,8,16,32 times the power rating for 1min,(V ≤ 4 times max, working voltage)