

SG73 Series



Thick Film Flat Chip Resistors

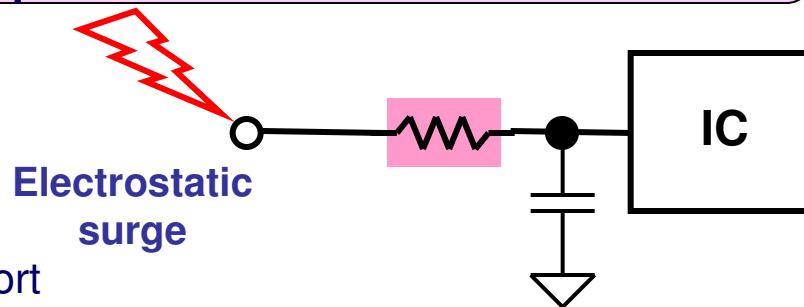
Surge Current Flat Chip Resistors (SG73 series)

■ Features

- Excellent surge resistance

■ Applications

- ESD & Surge protection at I/O port



Type	Size (inch)	Power Rating (w)	T.C.R. (x10 ⁻⁶ /K)	Max. Working Vol.(V)	Resistance Range(ohm)	Resistance Tolerance (%)
SG73 1J	0603	0.1	+/-200 +/-400	50	1~1M	K:+/-10 M:+/-20
SG73 2A	0805	0.125		150		
SG73 2B	1206	0.25		200		
SG73 2E	1210	0.33				
SG73 W2H	2010	0.75				
SG73 W3A	2512	1				

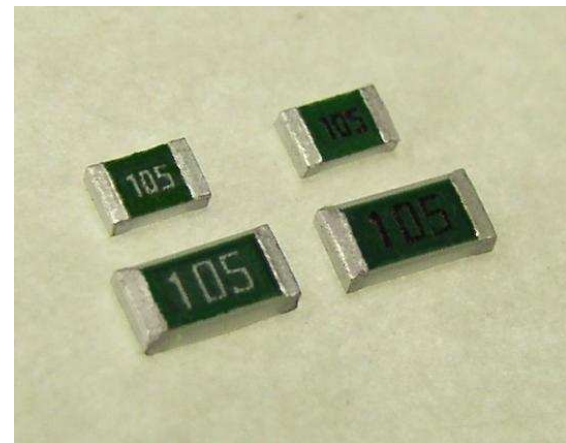


Thick Film Flat Chip Resistors

Surge Current Flat Chip Resistors (SG73S, SG73P series)

■ Features

- High precision type (+/-0.5%~)
- SG73S: Excellent ESD resistance
High peak voltage, but effective for short duration waveform
- SG73P: Strong resistance to pulse overload
High peak voltage, but effective for long duration waveform
(CR discharge/inrush current)



Applications

- ECUs, Circuits to catch inductive lighting surge.

Type	Size (inch)	Power Rating(W)	T.C.R. (x10 ⁻⁶ /K)	Max. Working Vol.(V)	Resistance Range(ohm)	Resistance Tolerance (%)
SG73S 1E SG73P 1E	0402	0.125	+/-200	50	1~10M	D: +/-0.5(10~1Mohm) F: +/-1 (1~1Mohm) G: +/-2 (1~10Mohm) J: +/-5 (1~10Mohm)
SG73S 1J SG73P 1J	0603	0.2	+/-100 *			
SG73S 2A SG73P 2A	0805	0.25	+/-200	150		
SG73S 2B SG73P 2B	1206	0.33		200		
SG73S 2E SG73P 2E	1210	0.5				





< SG73P/S series

Anti-pulse chip resistors >

◆ Surge overload

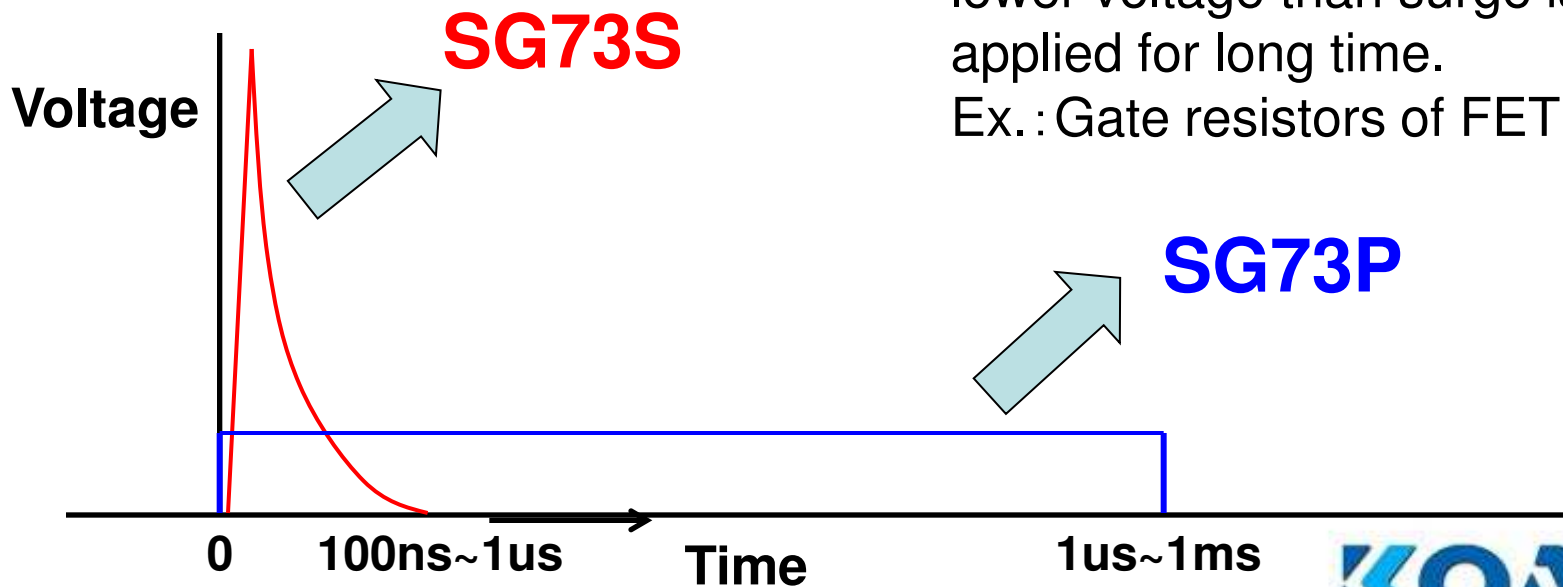
High peak voltage, short duration

Ex. : CR discharge, ESD surge

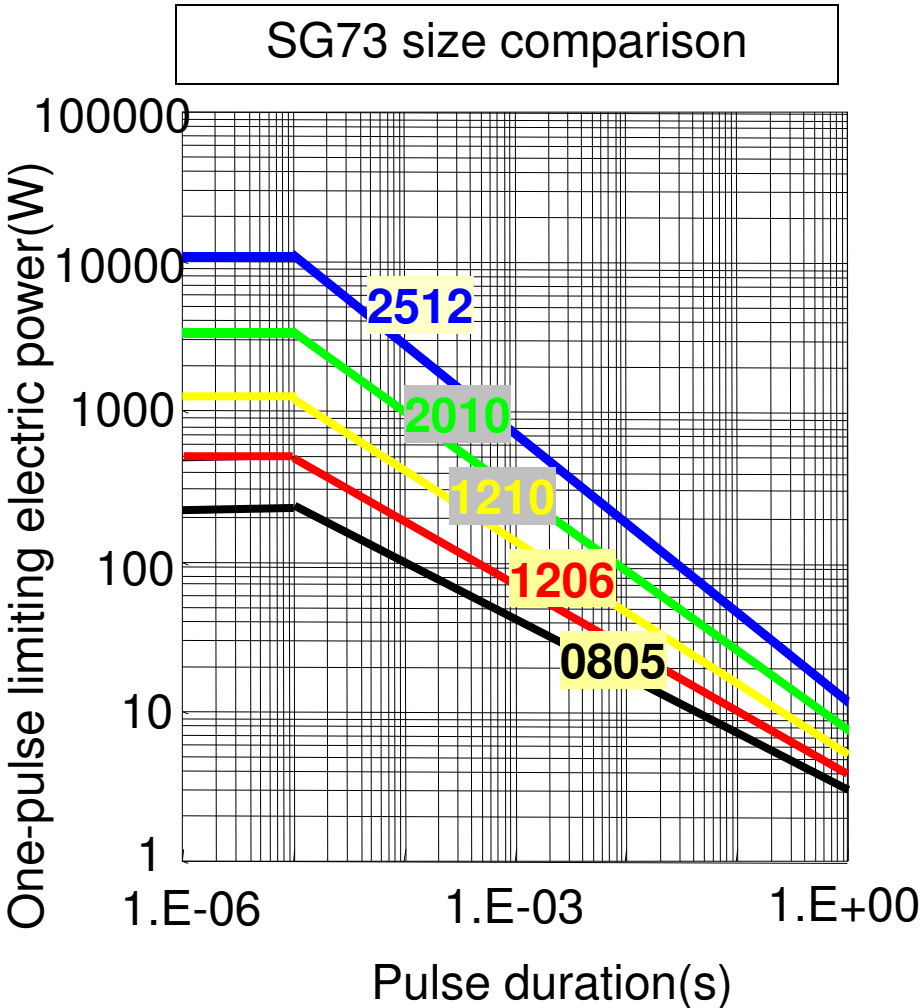
◆ Pulse overload

Higher power than rated power, lower voltage than surge is applied for long time.

Ex. : Gate resistors of FET



The large the size is, the higher the one-pulse limiting electric power

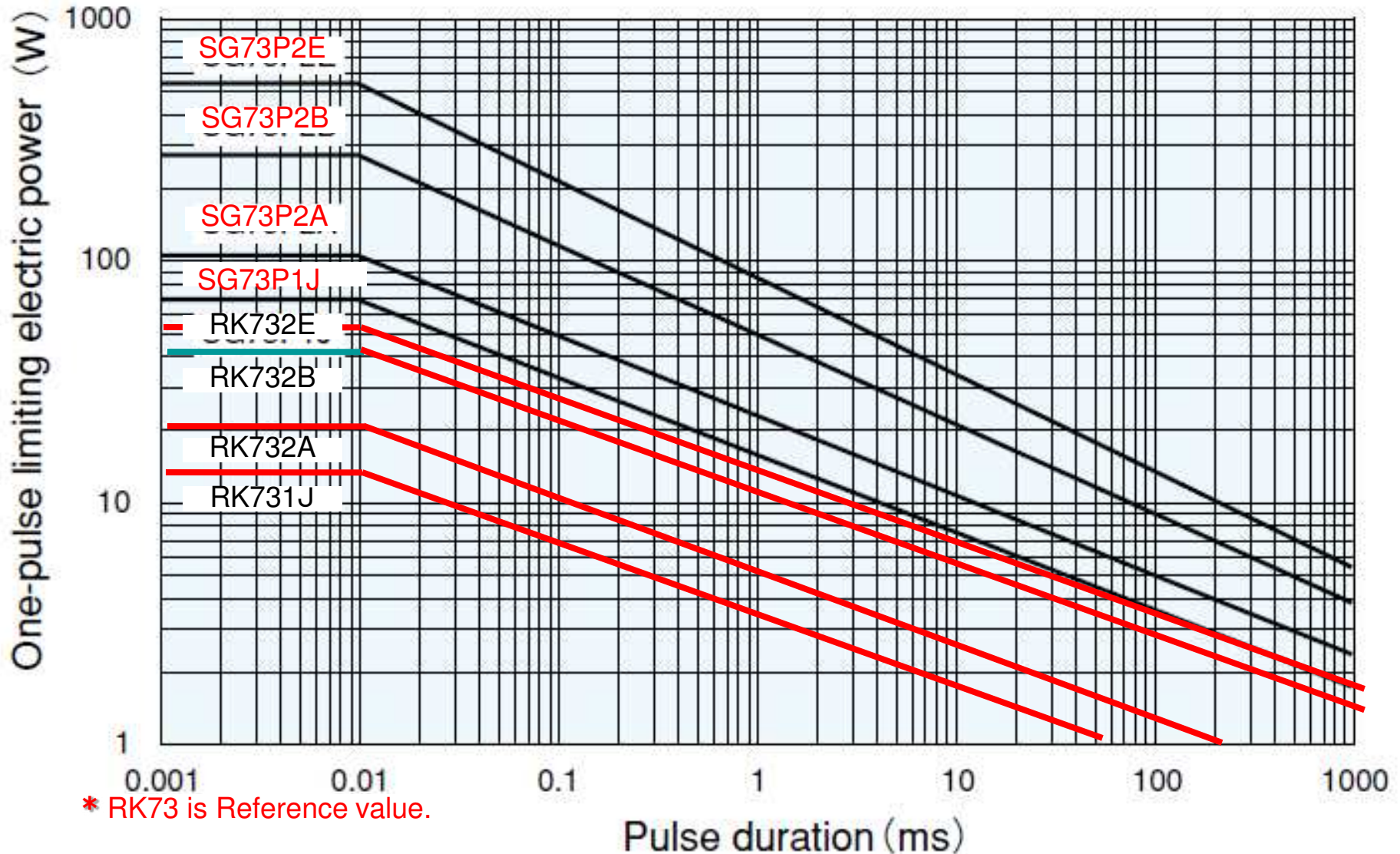


Size (inch)	One-pulse limiting electric power(W) Pulse duration:10(us)		
	For Pulse SG73	For Pulse SG73P	For General RK73
0603	68	70	13
0805	220	103	20
1206	500	268	40
1210	1300	531	52
2012	3600	-	210
2512	11000	-	420

- Select large size for better pulse resistance.
- Anti pulse type is small size with **high max peak current**
- **SG73P** is suitable for high precision (+/- 0.5~+/-5%) is requested



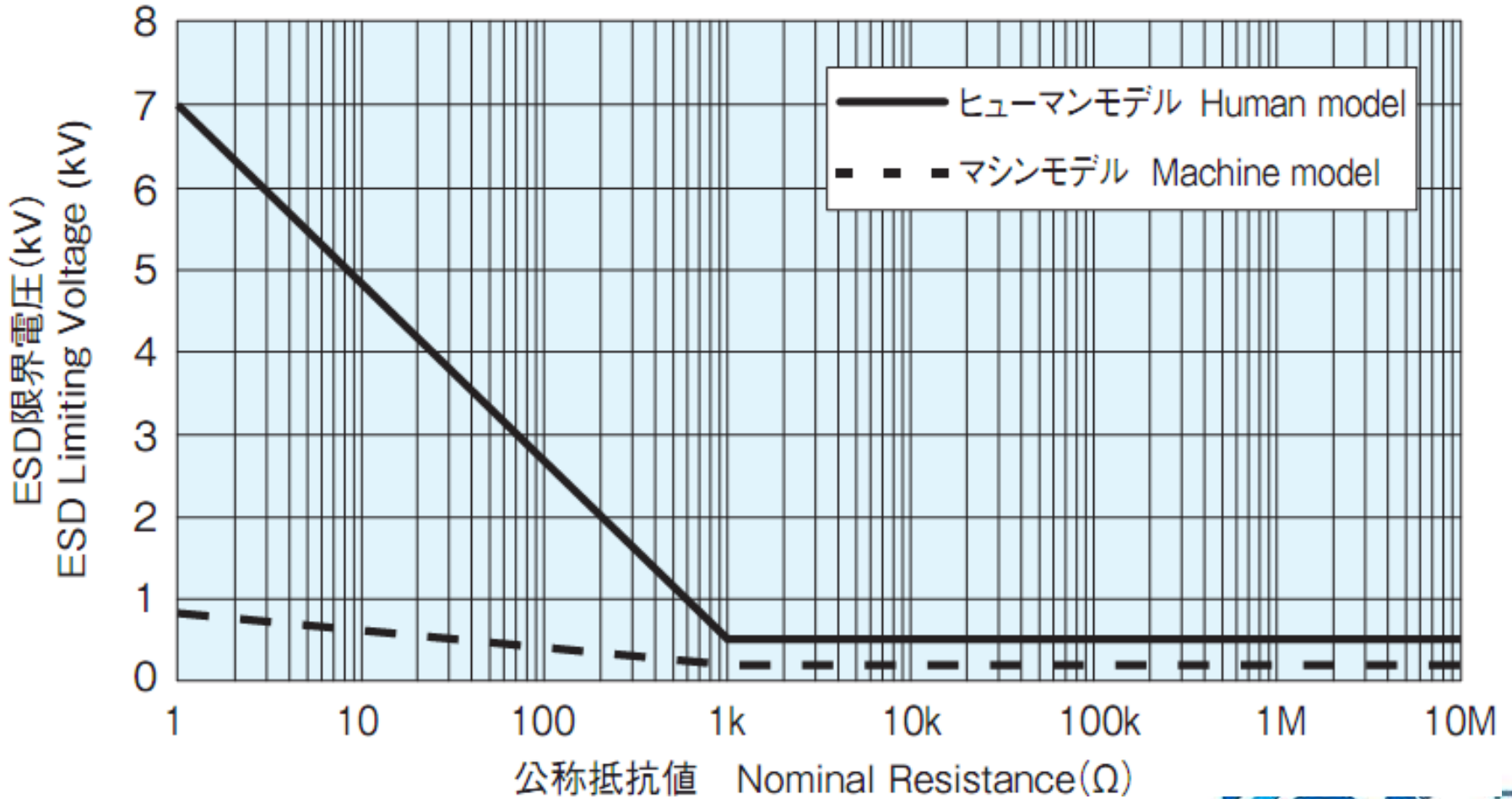
<Comparison of One-pulse limiting electric power 2>



* RK73 is Reference value.

<ESD Limiting Voltage(Guaranteed performance)>

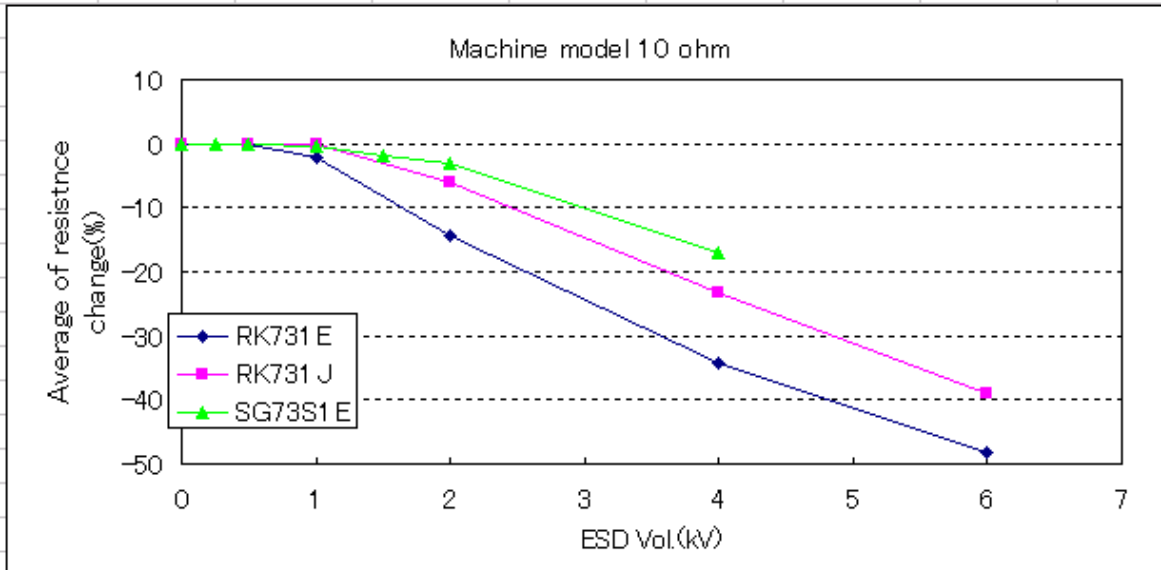
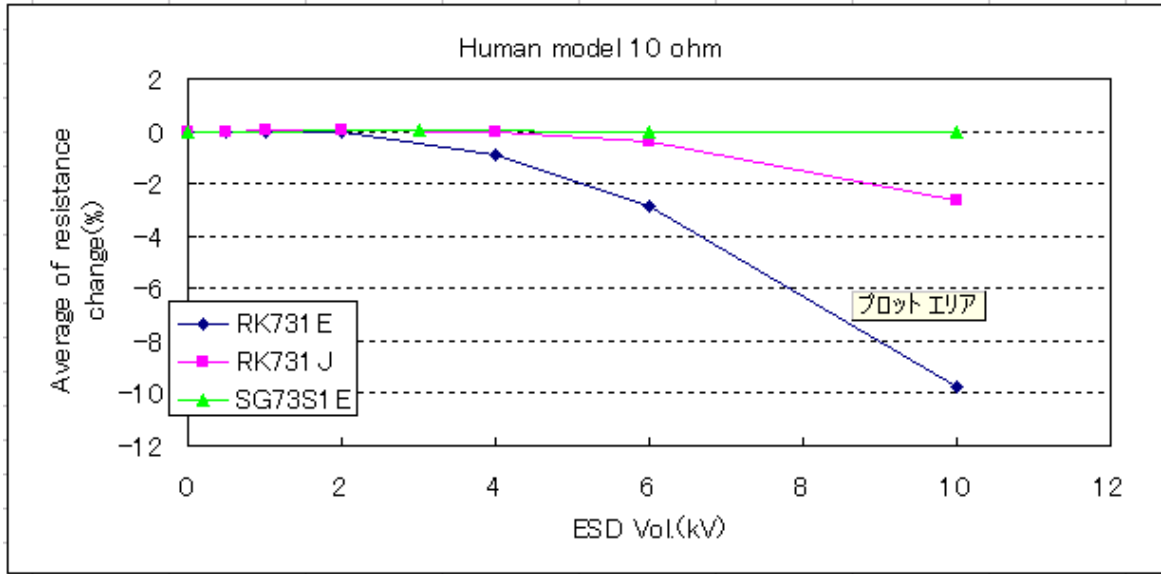
SG73S 1E



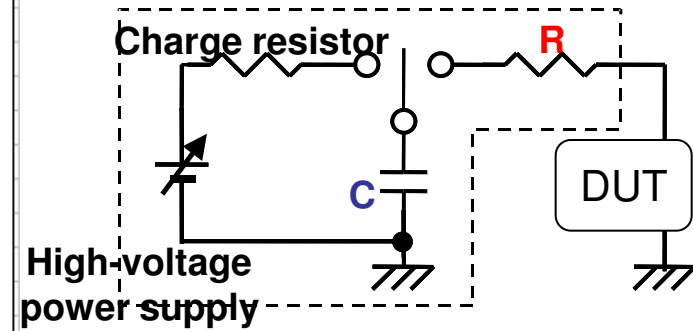
RK73 series doesn't have ESD guarantee.



<SG73S vs RK73 ESD test (10 ohm)>

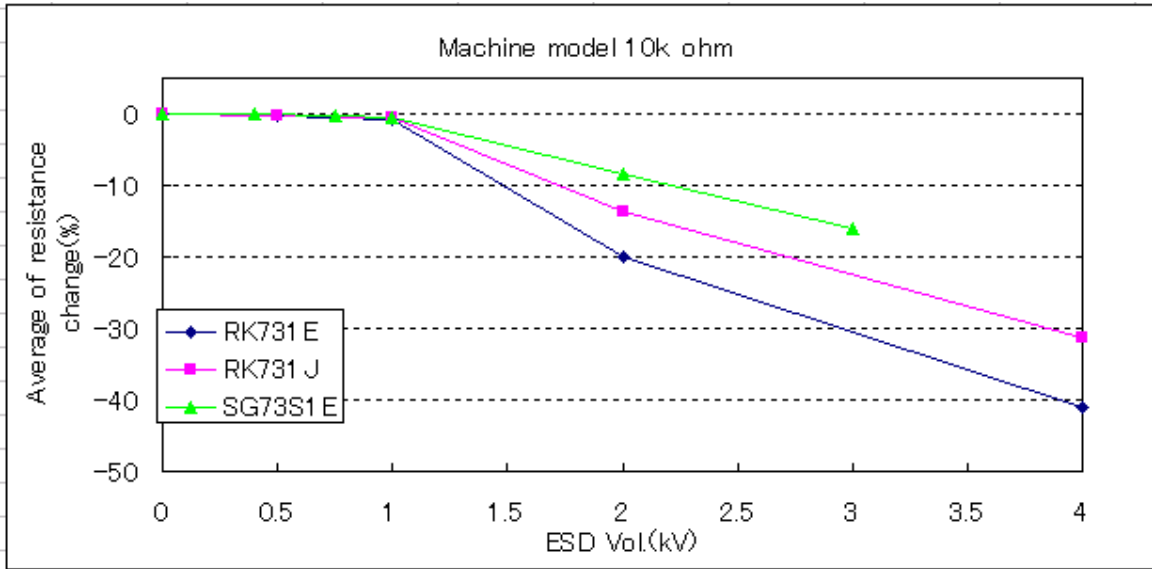
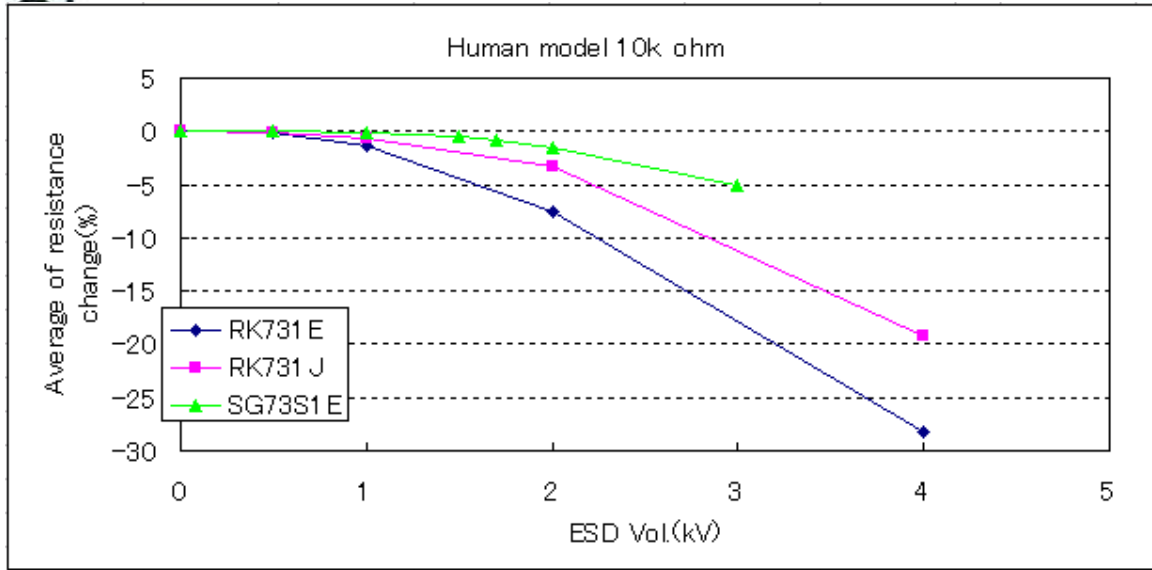


ESD test circuit and values

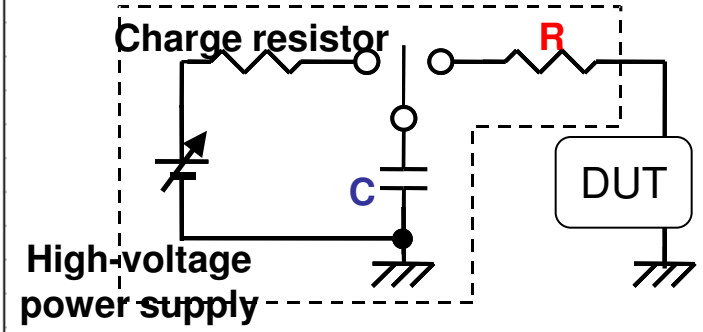


Model	Resistance (ohm)	Capacitance (pF)
Human	1.5k	100
Machine	0	200

<SG73S vs RK73 ESD test (10k ohm)>



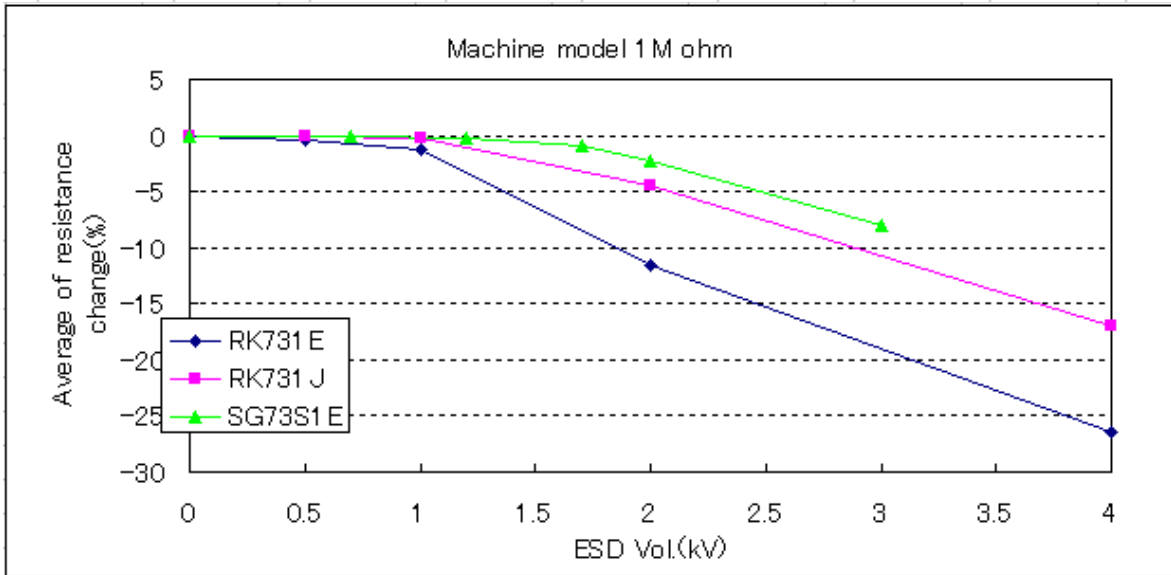
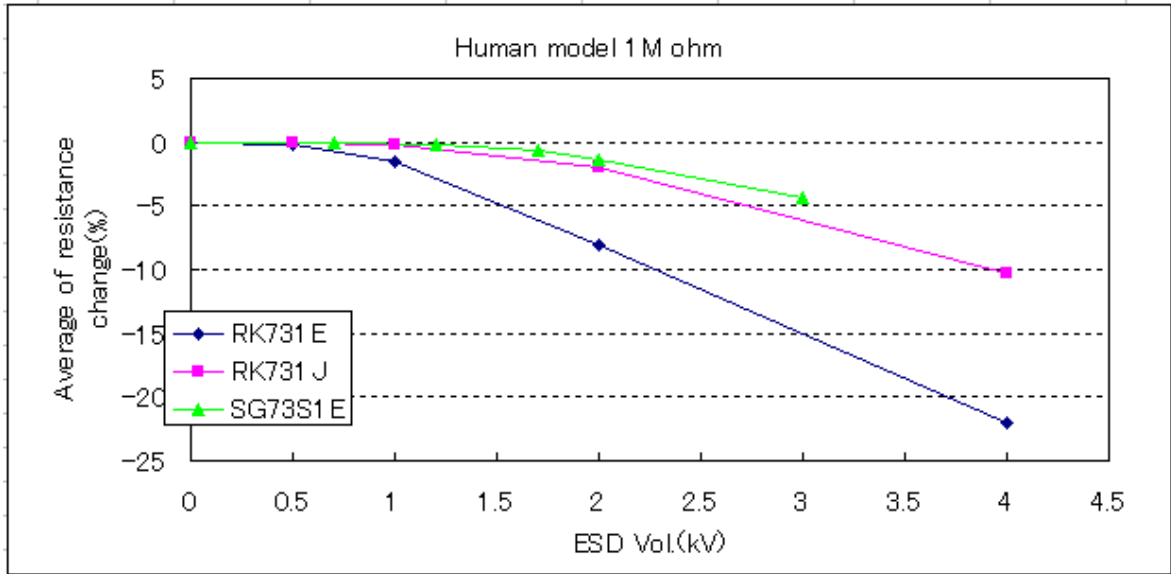
ESD test circuit and values



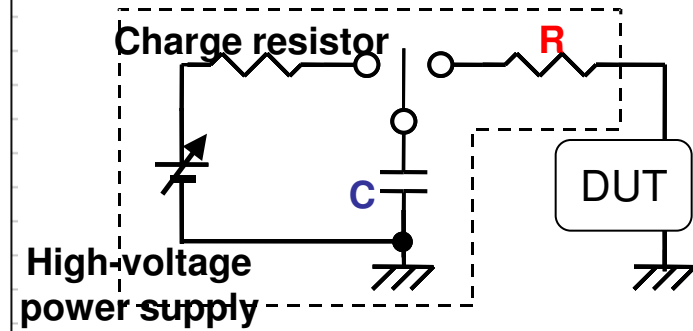
Model	Resistance (ohm)	Capacitance (pF)
Human	1.5k	100
Machine	0	200



<SG73S vs RK73 ESD test (1M ohm)>



ESD test circuit and values



Model	Resistance (ohm)	Capacitance (pF)
Human	1.5k	100
Machine	0	200

