

S 830

POLOVODIČE a.s.

Silicon Surge Voltage Suppressor

Features

- Diffused pnp – Si -structure mounted in hermetically sealed metal-ceramic package
- Available to protect power devices (thyristors) against small and medium power surges (e.g. 200 kW over 10 μ s)

Applications

Traction, HVDC transmission, generator excitation, transmitter power supply, high power motor controls

Type	V_R (V)	Type	V_R (V)
S 830-500-04	450 \pm 50	S 830-300-16	1650 \pm 50
S 830-500-05	550 \pm 50	S 830-300-17	1750 \pm 50
S 830-380-06	650 \pm 50	S 830-300-18	1850 \pm 50
S 830-380-07	750 \pm 50	S 830-300-19	1950 \pm 50
S 830-300-08	850 \pm 50	S 830-260-20	2050 \pm 50
S 830-300-09	950 \pm 50	S 830-260-21	2150 \pm 50
S 830-260-10	1050 \pm 50	S 830-260-22	2250 \pm 50
S 830-260-11	1150 \pm 50	S 830-260-23	2350 \pm 50
S 830-230-12	1250 \pm 50	S 830-230-24	2450 \pm 50
S 830-230-13	1350 \pm 50	S 830-230-25	2550 \pm 50
S 830-200-14	1450 \pm 50	S 830-230-26	2650 \pm 50
S 830-200-15	1550 \pm 50	S 830-230-27	2750 \pm 50
		S 830-200-28	2850 \pm 50
		S 830-200-29	2950 \pm 50
		S 830-200-30	3050 \pm 50

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		S 830-200-31	3150 ± 50
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Type	V_R (V)	Thyristor V_{DRM} (V) V_{RRM} (V)	I_{RM} (A) for base width				I_{RRM} (A)	P_{RAV} (W)	P_{RSM} (kW)
			1x10 μ s	1x100 μ s	1x1ms	1x10ms			
S 830-500-04	450 \pm 50	500	500	135	33	7.5	70	30*	350
S 830-500-05	550 \pm 50	600	500	135	33	7.5	70	30*	350
S 830-380-06	650 \pm 50	700	380	100	25	4.5	60	30*	350
S 830-380-07	750 \pm 50	800	380	100	25	4.5	60	30*	350
S 830-300-08	850 \pm 50	900	300	80	21	4	50	30*	350
S 830-300-09	950 \pm 50	1000	300	80	21	4	50	30*	350
S 830-260-10	1050 \pm 50	1100	260	67	18	3.6	41	30*	350
S 830-260-11	1150 \pm 50	1200	260	67	18	3.6	41	30*	350
S 830-230-12	1250 \pm 50	1300	230	58	15	3.4	35	30*	350
S 830-230-13	1350 \pm 50	1400	230	58	15	3.4	35	30*	350
S 830-200-14	1450 \pm 50	1500	200	50	13	3	30	30*	350
S 830-200-15	1550 \pm 50	1600	200	50	13	3	30	30*	350
S 830-300-16	1650 \pm 50	1800	300	80	21	4	50	60**	700
S 830-300-17	1750 \pm 50	1800	300	80	21	4	50	60**	700
S 830-300-18	1850 \pm 50	2000	300	80	21	4	50	60**	700
S 830-300-19	1950 \pm 50	2000	300	80	21	4	50	60**	700
S 830-260-20	2050 \pm 50	2200	260	67	18	3.6	41	60**	700
S 830-260-21	2150 \pm 50	2200	260	67	18	3.6	41	60**	700
S 830-260-22	2250 \pm 50	2400	260	67	18	3.6	41	60**	700
S 830-260-23	2350 \pm 50	2400	260	67	18	3.6	41	60**	700
S 830-230-24	2450 \pm 50	2600	230	58	15	3.4	35	60**	700
S 830-230-25	2550 \pm 50	2600	230	58	15	3.4	35	60**	700
S 830-230-26	2650 \pm 50	2800	230	58	15	3.4	35	60**	700
S 830-230-27	2750 \pm 50	2800	230	58	15	3.4	35	60**	700
S 830-200-28	2850 \pm 50	3000	200	50	13	3	30	60**	700
S 830-200-29	2950 \pm 50	3000	200	50	13	3	30	60**	700
S 830-200-30	3050 \pm 50	3200	200	50	13	3	30	60**	700
S 830-200-31	3150 \pm 50	3200	200	50	13	3	30	60**	700

Notice:

V_R ... Symmetrical avalanche voltage at $I_A = 20$ A, $t_p = 10 \mu$ s, $T_{vj} = 60$ °C

I_{RM} ... Max. avalanche current for a single sine half wave pulse

I_{RRM} ... Max. avalanche current for 10 pulses of 100 μ s width, repetition frequency 50 Hz

P_{RAV} ... Admissible continuous losses at $R_{thja} < 1$ K/W, $T_a < 60$ °C

* single side cooling

** double side cooling

P_{RSM} ... peak power losses for a single 10 μ s current surge

T_{vj} ... the initial virtual junction temperature is 60°C

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S 830-500-04 ... S 830-200-15

Major ratings		Value	Units
$V_R(T_j)$	Dependence of avalanche voltage V_R on junction temperature	$V_R(T) = V_{R0}[1 + 1.1 \times 10^{-3}(T - 60 \text{ }^\circ\text{C})]$ *)	V
C_j	Junction capacitance $U_R = 0 \text{ V}, T_j = 60 \text{ }^\circ\text{C}$	1100	pF
R_{th}	Thermal resistance junction-heatsink	0.5 **)	K/W
$T_j T_{STG}$	Operating storage temperature range	-40 125	°C
	Admissible acceleration (vibration)	10 g	m/s ²
M_u	Mounting torque	3.5	Nm

*) $V_R(60^\circ\text{C}) = V_{R0}$; $V_R(25^\circ\text{C}) = 0,96 \times V_{R0}$; $V_R(125^\circ\text{C}) = 1,07 \times V_{R0}$.

**) For single sided cooling the side carrying the serial number shall be cooled.

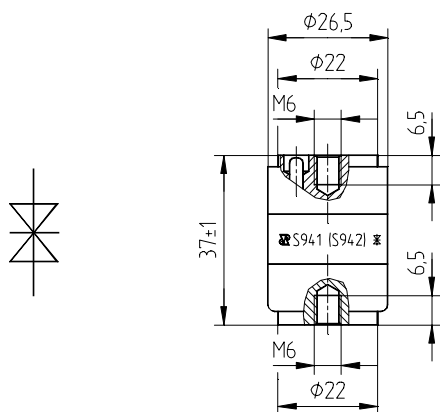
S 830-300-16 ... S 830-200-31

Major ratings		Value	Units
$V_R(T_j)$	Dependence of avalanche voltage V_R on junction temperature	$V_R = V_{R0}[1 + 1.1 \times 10^{-3}(T - 60 \text{ }^\circ\text{C})]$ *)	V
C_j	Junction capacitance $U_R = 0 \text{ V}, T_j = 60 \text{ }^\circ\text{C}$	550	pF
R_{th}	Thermal resistance junction-heatsink	0.25	K/W
$T_j T_{STG}$	Operating storage temperature range	-40 125	°C
	Admissible acceleration (vibration)	10 g	m/s ²
M_u	Mounting torque	3.5	Nm

*) $V_R(60^\circ\text{C}) = V_{R0}$; $V_R(25^\circ\text{C}) = 0,93 \times V_{R0}$; $V_R(125^\circ\text{C}) = 1,07 \times V_{R0}$.

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