Frontier Electronics Corp.

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3000W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

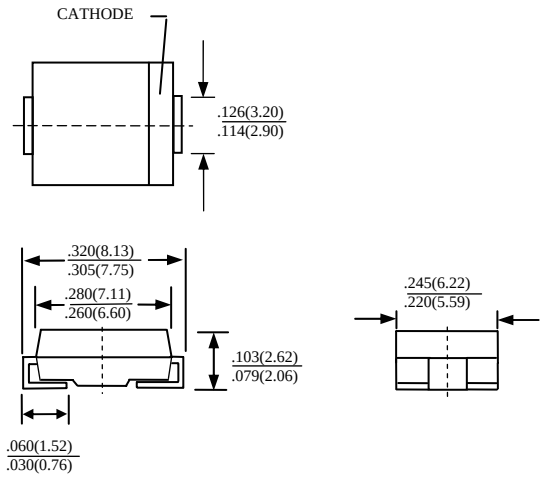
3.0SMCJ5.0-LFR THRU 3.0SMCJ170A-LFR

FEATURES

- PLASTIC PACKAGE HAS UNDERWRITERS LABORATORY FLAMMABILITY CLASSIFICATION 94V-0
- GLASS PASSIVATED JUNCTION
- LOW PROFILE
- EXCELLENT CLAMPING CAPABILITY
- LOW INCREMENTAL SURGE RESISTANCE
- FAST RESPONSE TIME: TYPICALLY LESS THAN 1.0 ps FROM 0 VOLTS TO V(BR) MIN
- 3000 W PEAK PULSE POWER CAPABILITY WITH A 10/1000 µS WAVEFORM , REPETITION RATE (DUTY CYCLE): 0.01%
- TYPICAL I_D LESS THAN 1µA ABOVE 10V
- HIGH TEMPERATURE SOLDERING GUARANTEED: 250°C/10 SECONDS AT TERMINALS
- LEAD FREE

MECHANICAL DATA

- CASE: MOLDED PLASTIC
- TERMINALS: SOLDER PLATED
- POLARITY: INDICATED BY CATHODE BAND
- WEIGHT: 0.21 GRAMS



CASE : DO-214AB (SMC)
DIMENSIONS IN INCHES AND (MILLIMETERS)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED

RATINGS	SYMBOL	VALUE	UNITS
PEAK PULSE POWER DISSIPATION ON 10/1000µS WAVEFORM (NOTE 1, FIG. 1)	P_{PPM}	MINIMUM 3000	WATTS
PEAK PULSE CURRENT OF 0N 10/1000µS WAVEFORM (NOTE 1,FIG. 3)	I_{PPM}	SEE TABLE 1	A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD, UNIDIRECTIONAL ONLY(NOTE 2)	I_{FSM}	250	A
MAXIMUM INSTANTANEOUS FORWARD VOLTAGE AT 25A FOR UNIDIRECTIONAL ONLY (NOTE 3 & 4)	VF	SEE NOTE 4	V
OPERATING JUNCTION AND STORAGE TEMPERATURE RANGE	T_J, T_{STG}	- 55 TO + 150	℃

NOTE:
1. NON-REPETITIVE CURRENT PULSE, PER FIG.3 AND DERATED ABOVE TA=25°C PER FIG 2.
2. MOUNTED ON 8.0x8.0mm COPPER PADS TO EACH TERMINAL
3. MEASURED ON 8.3mS SINGLE HALF SINE-WAVE OR EQUIVALENT SQUARE WAVE, DUTY CYCLE = 4 PULSES PER MINUTE MAXIMUM
4. VF=3.5V ON 3.0SMCJ5.0 THRU 3.0SMCJ90A DEVICES AND VF=5.0V ON 3.0SMCJ100 THRU 3.0SMCJ170A
5. PEAK PULSE POWER WAVE FORM IS 10 / 1000 uS

DEVICE	DEVICE MARKING CODE		WORKING PEAK REVERSE VOLTAGE V_{WM}(VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)}$ (VOLTS) at I_T		TEST CURRENT I_T(mA)	MAXIMUM Clamping VOLTAGE AT I_{PPM} VC(Volts) (Note 2)	MAX PEAK PULSE SURGE CURRENT I_{PPM} (NOTE 2) (Amps)	MAXIMUM REVERSE LEAKAGE AT V_{WM} I_D(μA)
	UNI	BI		MIN	MAX				
3.0SMCJ5.0-LFR	HDD	IDD	5.0	6.40	7.82	10	9.6	312.5	800
3.0SMCJ5.0A-LFR	HDE	IDE	5.0	6.40	7.07	10	9.2	326.0	800
3.0SMCJ6.0-LFR	HDF	IDF	6.0	6.67	8.15	10	11.4	263.2	800
3.0SMCJ6.0A-LFR	HDG	IDG	6.0	6.67	7.37	10	10.3	291.3	800
3.0SMCJ6.5-LFR	HDH	IDH	6.5	7.22	8.82	10	12.3	243.9	500
3.0SMCJ6.5A-LFR	HDK	IDK	6.5	7.22	7.98	10	11.2	267.9	500
3.0SMCJ7.0-LFR	HDL	IDL	7.0	7.78	9.51	10	13.3	225.6	200
3.0SMCJ7.0A-LFR	HDM	IDM	7.0	7.78	8.60	10	12.0	250.0	200
3.0SMCJ7.5-LFR	HDN	IDN	7.5	8.33	10.2	1.0	14.3	209.8	100
3.0SMCJ7.5A-LFR	HDP	IDP	7.5	8.33	9.21	1.0	12.9	232.6	100
3.0SMCJ8.0-LFR	HDQ	IDQ	8.0	8.89	10.9	1.0	15.0	200.0	50.0
3.0SMCJ8.0A-LFR	HDR	IDR	8.0	8.89	9.83	1.0	13.6	220.6	50.0
3.0SMCJ8.5-LFR	HDS	IDS	8.5	9.44	11.5	1.0	15.9	188.8	10.0
3.0SMCJ8.5A-LFR	HDT	IDT	8.5	9.44	10.4	1.0	14.4	208.4	10.0
3.0SMCJ9.0-LFR	HDU	IDU	9.0	10.0	12.2	1.0	16.9	177.4	5.0
3.0SMCJ9.0A-LFR	HDV	IDV	9.0	10.0	11.1	1.0	15.4	194.8	5.0
3.0SMCJ10-LFR	HDW	IDW	10.0	11.1	13.6	1.0	18.8	159.6	5.0
3.0SMCJ10A-LFR	HDX	IDX	10.0	11.1	12.3	1.0	17.0	176.4	5.0
3.0SMCJ11-LFR	HDY	IDY	11.0	12.2	14.9	1.0	20.1	149.2	5.0
3.0SMCJ11A-LFR	HDZ	IDZ	11.0	12.2	13.5	1.0	18.2	164.8	5.0
3.0SMCJ12-LFR	HED	IED	12.0	13.3	16.3	1.0	22.0	136.4	5.0
3.0SMCJ12A-LFR	HEE	IEE	12.0	13.3	14.7	1.0	19.9	150.6	5.0
3.0SMCJ13-LFR	HEF	IEF	13.0	14.4	17.6	1.0	23.8	126.0	5.0
3.0SMCJ13A-LFR	HEG	IEG	13.0	14.4	15.9	1.0	21.5	139.4	5.0
3.0SMCJ14-LFR	HEH	IEH	14.0	15.6	19.1	1.0	25.8	116.2	5.0
3.0SMCJ14A-LFR	HEK	IEK	14.0	15.6	17.2	1.0	23.2	129.4	5.0
3.0SMCJ15-LFR	HEL	IEL	15.0	16.7	20.4	1.0	26.9	111.6	5.0
3.0SMCJ15A-LFR	HEM	IEM	15.0	16.7	18.5	1.0	24.4	123.0	5.0
3.0SMCJ16-LFR	HEN	IEN	16.0	17.8	21.8	1.0	28.8	104.2	5.0
3.0SMCJ16A-LFR	HEP	IEP	16.0	17.8	19.7	1.0	26.0	115.4	5.0
3.0SMCJ17-LFR	HEQ	IEQ	17.0	18.9	23.1	1.0	30.5	98.4	5.0
3.0SMCJ17A-LFR	HER	IER	17.0	18.9	20.9	1.0	27.6	108.7	5.0
3.0SMCJ18-LFR	HES	IES	18.0	20.0	24.4	1.0	32.2	93.2	5.0
3.0SMCJ18A-LFR	HET	IET	18.0	20.0	22.1	1.0	29.2	102.8	5.0
3.0SMCJ20-LFR	HEU	IEU	20.0	22.2	27.1	1.0	35.8	83.8	5.0
3.0SMCJ20A-LFR	HEV	IEV	20.0	22.2	24.5	1.0	32.4	92.6	5.0
3.0SMCJ22-LFR	HEW	IEW	22.0	24.4	29.8	1.0	39.4	76.2	5.0
3.0SMCJ22A-LFR	HEX	IEX	22.0	24.4	26.9	1.0	35.5	84.4	5.0
3.0SMCJ24-LFR	HEY	IEY	24.0	26.7	32.6	1.0	43.0	69.8	5.0
3.0SMCJ24A-LFR	HEZ	IEZ	24.0	26.7	29.5	1.0	38.9	77.2	5.0
3.0SMCJ26-LFR	HFD	IFD	26.0	28.9	35.3	1.0	46.6	64.4	5.0
3.0SMCJ26A-LFR	HFE	IFE	26.0	28.9	31.9	1.0	42.1	71.2	5.0
3.0SMCJ28-LFR	HFF	IFF	28.0	31.1	38.0	1.0	50.0	60.0	5.0
3.0SMCJ28A-LFR	HFG	IFG	28.0	31.1	34.4	1.0	45.4	66.0	5.0
3.0SMCJ30-LFR	HFH	IFH	30.0	33.3	40.7	1.0	53.5	56.0	5.0
3.0SMCJ30A-LFR	HFK	IFK	30.0	33.3	36.8	1.0	48.4	62.0	5.0
3.0SMCJ33-LFR	HFL	IFL	33.0	36.7	44.9	1.0	59.0	50.4	5.0
3.0SMCJ33A-LFR	HFM	IFM	33.0	36.7	40.6	1.0	53.3	56.2	5.0
3.0SMCJ36-LFR	HFN	IFN	36.0	40.0	48.9	1.0	64.3	46.6	5.0
3.0SMCJ36A-LFR	HFP	IFP	36.0	40.0	44.2	1.0	58.1	51.6	5.0
3.0SMCJ40-LFR	HFQ	IFQ	40.0	44.4	54.3	1.0	71.4	42.0	5.0
3.0SMCJ40A-LFR	HFR	IFR	40.0	44.4	49.1	1.0	64.5	46.4	5.0
3.0SMCJ43-LFR	HFS	IFS	43.0	47.8	58.4	1.0	76.7	39.2	5.0
3.0SMCJ43A-LFR	HFT	IFT	43.0	47.8	52.8	1.0	69.4	43.2	5.0
3.0SMCJ45-LFR	HFU	IFU	45.0	50.0	61.1	1.0	80.3	37.4	5.0
3.0SMCJ45A-LFR	HFV	IFV	45	50.0	55.3	1.0	72.7	41.2	5.0
3.0SMCJ48-LFR	HFW	IFW	48	53.3	65.1	1.0	85.5	35.0	5.0
3.0SMCJ48A-LFR	HFX	IFX	48	53.3	58.9	1.0	77.4	38.8	5.0

DEVICE	DEVICE MARKING CODE		WORKING PEAK REVERSE VOLTAGE V_{WM}(VOLTS)	BREAKDOWN VOLTAGE $V_{(BR)}$ (VOLTS) at I_T		TEST CURRENT I_T(mA)	MAXIMUM Clamping VOLTAGE AT I_{PPM} VC(Volts) (Note 2)	MAX PEAK PULSE SURGE CURRENT I_{PPM} (NOTE 2) (Amps)	MAXIMUM REVERSE LEAKAGE AT V_{WM} I_D(μA)
	UNI	BI		MIN	MAX				
3.0SMCJ51-LFR	HFY	IFY	51	56.7	69.3	1.0	91.1	37.0	5.0
3.0SMCJ51A-LFR	HFZ	IFZ	51	56.7	62.7	1.0	82.4	36.4	5.0
3.0SMCJ54-LFR	HGD	IGD	54	60.0	73.3	1.0	96.3	31.2	5.0
3.0SMCJ54A-LFR	HGE	IGE	54	60.0	66.3	1.0	87.1	34.4	5.0
3.0SMCJ58-LFR	HGF	IGF	58	64.4	78.7	1.0	103.0	39.2	5.0
3.0SMCJ58A-LFR	HGG	IGG	58	64.4	71.2	1.0	93.0	32.0	5.0
3.0SMCJ60-LFR	HGH	IGH	60	66.7	81.5	1.0	107.0	28.0	5.0
3.0SMCJ60A-LFR	HGK	IGK	60	66.7	73.7	1.0	96.0	31.0	5.0
3.0SMCJ64-LFR	HGL	IGL	64	71.1	86.9	1.0	114.0	26.4	5.0
3.0SMCJ64A-LFR	HGM	IGM	64	71.1	78.6	1.0	103.0	29.2	5.0
3.0SMCJ70-LFR	HGN	IGN	70	77.8	95.1	1.0	125.0	24.0	5.0
3.0SMCJ70A-LFR	HGP	IGP	70	77.8	86.0	1.0	113.0	26.6	5.0
3.0SMCJ75-LFR	HGQ	IGQ	75	83.3	102.0	1.0	134.0	22.4	5.0
3.0SMCJ75A-LFR	HGR	IGR	75	83.3	92.1	1.0	121.0	24.8	5.0
3.0SMCJ78-LFR	HGS	IGS	78	86.7	106.0	1.0	139.0	21.6	5.0
3.0SMCJ78A-LFR	HGT	IGT	78	86.7	95.8	1.0	126.0	23.8	5.0
3.0SMCJ85-LFR	HGU	IGU	85	94.4	115.0	1.0	151.0	19.8	5.0
3.0SMCJ85A-LFR	HGV	IGV	85	94.4	104.0	1.0	137.0	21.9	5.0
3.0SMCJ90-LFR	HGW	IGW	90	100	122.0	1.0	160.0	18.8	5.0
3.0SMCJ90A-LFR	HGX	IGX	90	100	111.0	1.0	146.0	20.6	5.0
3.0SMCJ100-LFR	HGY	IGY	100	111	136.0	1.0	179.0	16.6	5.0
3.0SMCJ100A-LF	HGZ	IGZ	100	111	123.0	1.0	162.0	18.6	5.0
R	HHD	IHD	110	122	149.0	1.0	196.0	15.4	5.0
3.0SMCJ110-LFR	HHE	IHE	110	122	135.0	1.0	177.0	16.8	5.0
3.0SMCJ110A-LF	HHF	IHF	120	133	163.0	1.0	214.0	14.0	5.0
R	HHG	IHG	120	133	147.0	1.0	193.0	15.6	5.0
3.0SMCJ120-LFR	HHH	IHH	130	144	176.0	1.0	231.0	13.0	5.0
3.0SMCJ120A-LF	HHK	IHK	130	144	159.0	1.0	209.0	14.4	5.0
R	HHL	IHL	150	167	204.0	1.0	268.0	11.2	5.0
3.0SMCJ130-LFR	HHM	IHM	150	167	185.0	1.0	243.0	12.4	5.0
3.0SMCJ130A-LF	HHN	IHN	160	178	218.0	1.0	287.0	10.4	5.0
R	HHP	IHP	160	178	197.0	1.0	259.0	11.6	5.0
3.0SMCJ150-LFR	HHQ	IHQ	170	189	231.0	1.0	304.0	9.8	5.0
3.0SMCJ150A-LF	HHR	IHR	170	189	209.0	1.0	275.0	11.0	5.0
R									
3.0SMCJ160-LFR									
3.0SMCJ160A-LF									
R									
3.0SMCJ170-LFR									
3.0SMCJ170A-LF									
R									

NOTE： 1. VF=3.5V on 3.0SMCJ5.0 thru 90A devices and VF=5.0V on 3.0SMCJ100 thru 170A devices at IF=25A on ½ Square or Equivalent Sine Wave. PW = 8.3ms , Duty Cycle = 4 Pulses per Minute Maximum

2. For Bipolar types with VR of 10 volts and under , the IR limit is doubled

3. Mounted on 5.0mm^2 copper pads to each terminal.

4. For Bidirectional use C suffix for 10% tolerance , CA suffix for 5% tolerance

RATINGS AND CHARACTERISTIC CURVES 3.0SMCJ5.0-LFR THRU 3.0SMCJ170A-LFR

FIG. 1 - PEAK PULSE POWER RATING CURVE

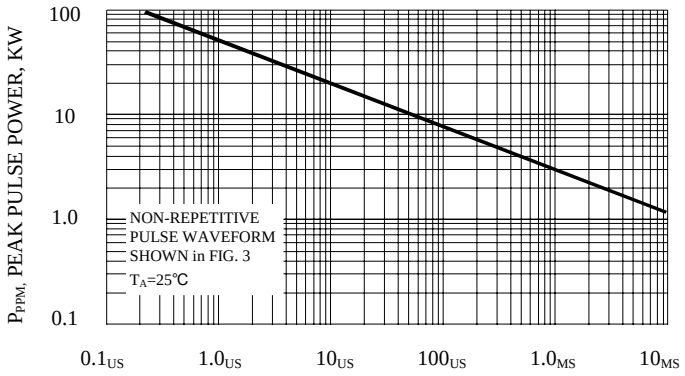


FIG. 2 - PULSE DERATING CURVE

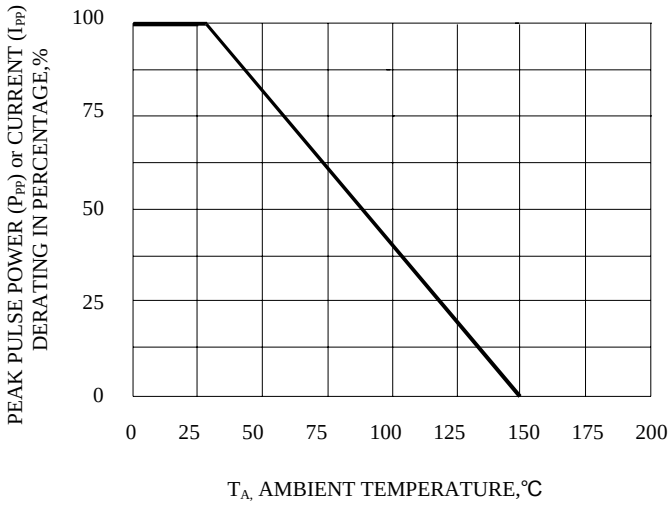


FIG. 3 - PULSE WAVEFORM
10 / 1000 μ A

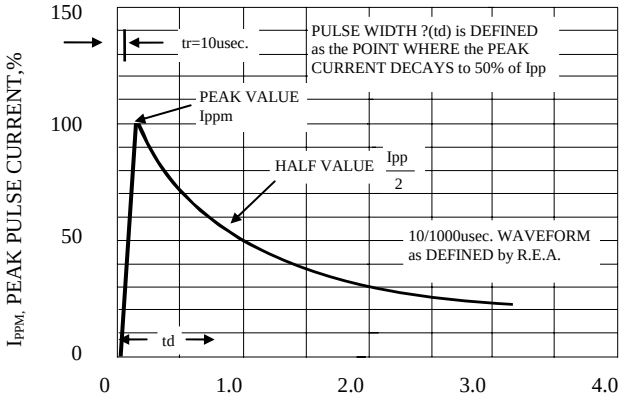


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

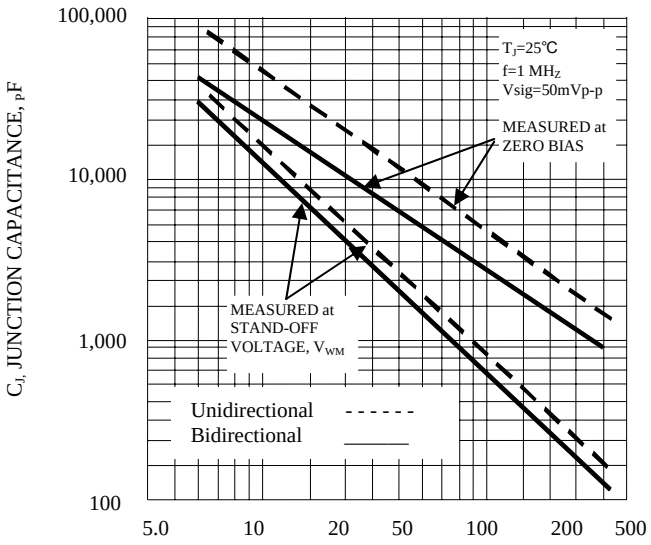


FIG.5 – PULSE WAVEFORM
8 / 20μ s

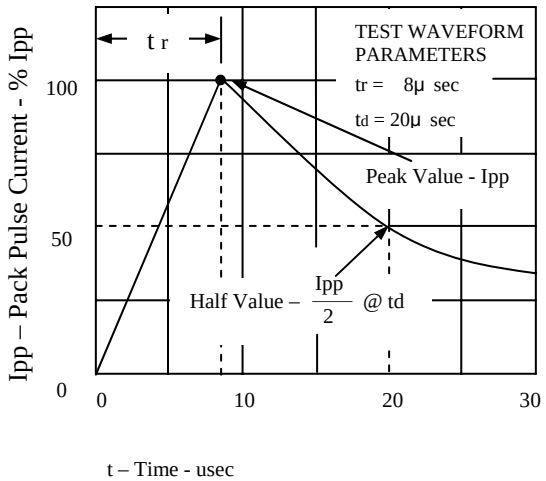
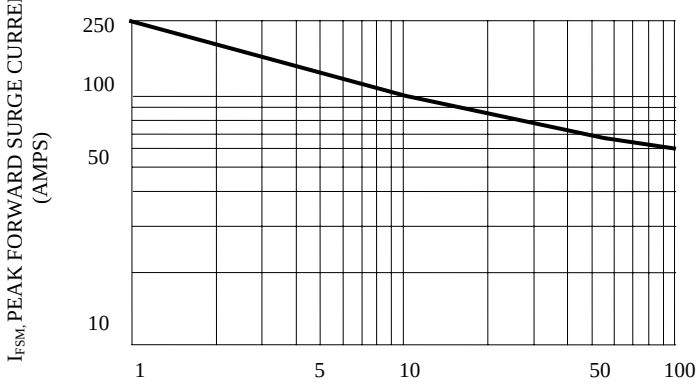


FIG.6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



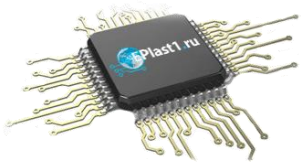
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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