3.0SMCJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE – 5.0-170 Volts Peak Pulse Power-3000 Watts

FEATURES

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Excellent clamping capability
- Low inductance
- Repetition Rate (duty cycle): 0.5%
- Fast response time: typically less than 1.0ps from 0 volts to BV for bidirectional types
- Typical I_D less than 1μA above 10V
- High temperature soldering: 250°C/10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O

MECHANICAL DATA

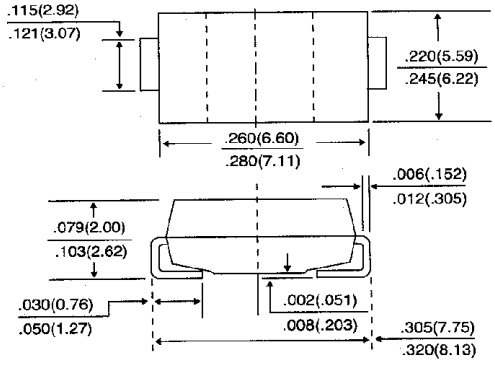
Case: JEDEC DO214AB molded plastic over passivated junction

Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Standard Packaging: 16mm tape (EIA-481)

Weight: .007 ounces, 0.21 gram

DO-214AB



Dimensions in inches and (millimeters)
*Typical Range

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000μs waveform (Notes 1, 2, Fig. 1)	P_{PPM}	Minimum 3000	Watts
Peak Pulse Current on 10/1000μs waveform (Note 1, Fig. 3)	I_{PPM}	See Table 1	Amps
Peak forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) (NOTES 2,3)	I_{FSM}	200.0	Amps
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

NOTES:
1. Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25°C$ per Fig. 2.
2. Mounted on 8.0mm² copper pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle = 4 pulses per minutes maximum.

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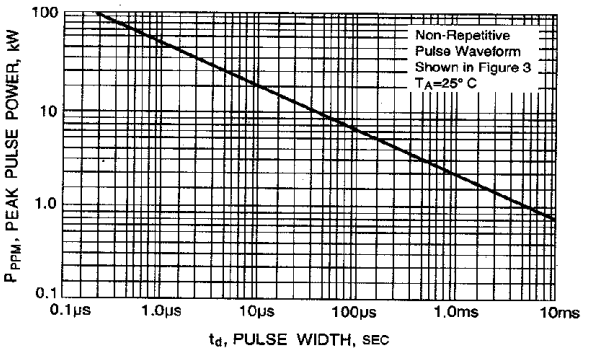

FIGURE 1 PEAK PULSE POWER VS PULSE TIME

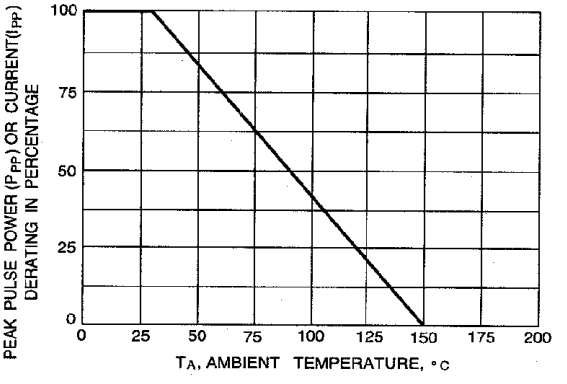

FIGURE 2 DERATING CURVE

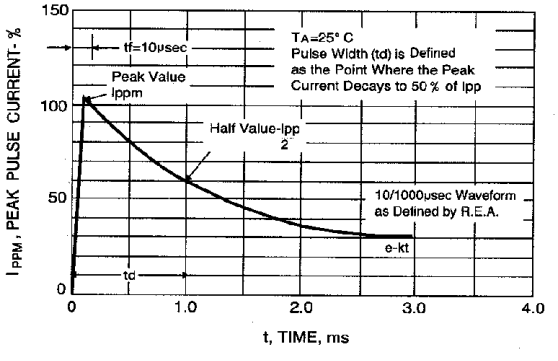

FIGURE 3 PULSE WAVEFORE

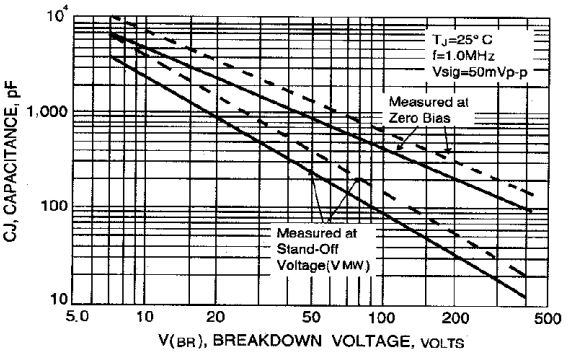

FIGURE 4 TYPICAL CAPACITANCE VS STAND-OFF VOLTAGE

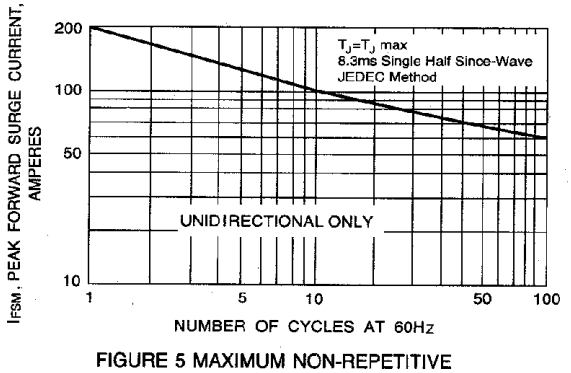

FIGURE 5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

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QUALITY ON BOARD

3000 Watt Surface Mount TVS

UNI-DIRECTIONAL PART NUMBER	DEVICE MARKING CODE	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @ IT	BREAKDOWN VOLTAGE VBR (V) MAX. @ IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
3.0SMCJ5.0	HDD	5.0	6.40	7.55	10	9.6	312.5	1000
3.0SMCJ5.0A	HDE	5.0	6.40	7.25	10	9.2	326.0	1000
3.0SMCJ6.0	HDF	6.0	6.67	8.45	10	11.4	263.2	1000
3.0SMCJ6.0A	HDG	6.0	6.67	7.67	10	10.3	291.3	1000
3.0SMCJ6.5	HDH	6.5	7.22	9.14	10	12.3	243.9	500
3.0SMCJ6.5A	HDK	6.5	7.22	8.30	10	11.2	267.9	500
3.0SMCJ7.0	HDL	7.0	7.78	9.86	10	13.3	225.6	200
3.0SMCJ7.0A	HDM	7.0	7.78	8.95	10	12.0	250.0	200
3.0SMCJ7.5	HDN	7.5	8.33	10.67	1	14.3	209.8	100
3.0SMCJ7.5A	HDP	7.5	8.33	9.58	1	12.9	232.6	100
3.0SMCJ8.0	HDQ	8.0	8.89	11.30	1	15.0	200.0	50
3.0SMCJ8.0A	HDR	8.0	8.89	10.23	1	13.6	220.6	50
3.0SMCJ8.5	HDS	8.5	9.44	11.92	1	15.9	188.8	25
3.0SMCJ8.5A	HDT	8.5	9.44	10.82	1	14.4	208.4	25
3.0SMCJ9.0	HDU	9.0	10.00	12.60	1	16.9	177.4	10
3.0SMCJ9.0A	HDV	9.0	10.00	11.50	1	15.4	194.8	10
3.0SMCJ10	HDW	10.0	11.10	14.10	1	18.8	159.6	5
3.0SMCJ10A	HDX	10.0	11.10	12.80	1	17.0	176.4	5
3.0SMCJ11	HDY	11.0	12.20	15.40	1	20.1	149.2	5
3.0SMCJ11A	HDZ	11.0	12.20	14.00	1	18.2	164.8	5
3.0SMCJ12	HED	12.0	13.30	16.90	1	22.0	136.4	5
3.0SMCJ12A	HEE	12.0	13.30	15.30	1	19.9	150.6	5
3.0SMCJ13	HEF	13.0	14.40	18.20	1	23.8	126.0	5
3.0SMCJ13A	HEG	13.0	14.40	16.50	1	21.5	139.4	5
3.0SMCJ14	HEH	14.0	15.60	19.80	1	25.8	116.2	5
3.0SMCJ14A	HEK	14.0	15.60	17.90	1	23.2	129.4	5
3.0SMCJ15	HEL	15.0	16.70	21.10	1	26.9	111.6	5
3.0SMCJ15A	HEM	15.0	16.70	19.20	1	24.4	123.0	5
3.0SMCJ16	HEN	16.0	17.80	22.60	1	28.8	104.2	5
3.0SMCJ16A	HEP	16.0	17.80	20.50	1	26.0	115.4	5
3.0SMCJ17	HEQ	17.0	18.90	23.90	1	30.5	98.4	5
3.0SMCJ17A	HER	17.0	18.90	21.70	1	27.6	106.6	5
3.0SMCJ18	HES	18.0	20.00	25.30	1	32.2	93.2	5
3.0SMCJ18A	HET	18.0	20.00	23.30	1	29.2	102.8	5
3.0SMCJ20	HEU	20.0	22.20	28.10	1	35.8	83.8	5
3.0SMCJ20A	HEV	20.0	22.20	25.50	1	32.4	92.6	5
3.0SMCJ22	HEW	22.0	24.40	30.90	1	39.4	76.2	5
3.0SMCJ22A	HEX	22.0	24.40	28.00	1	35.5	84.4	5
3.0SMCJ24	HEY	24.0	26.70	33.80	1	43.0	69.8	5
3.0SMCJ24A	HEZ	24.0	26.70	30.70	1	38.9	77.2	5
3.0SMCJ26	HFD	26.0	28.90	36.60	1	46.6	64.4	5
3.0SMCJ26A	HFE	26.0	28.90	33.20	1	42.1	71.2	5
3.0SMCJ28	HFF	28.0	31.10	39.40	1	50.0	60.0	5
3.0SMCJ28A	HFG	28.0	31.10	35.80	1	45.4	66.0	5
3.0SMCJ30	HFH	30.0	33.30	42.20	1	53.5	56.0	5
3.0SMCJ30A	HFK	30.0	33.30	38.30	1	48.4	62.0	5
3.0SMCJ33	HFL	33.0	36.70	46.50	1	59.0	50.4	5
3.0SMCJ33A	HFM	33.0	36.70	42.20	1	53.3	56.2	5
3.0SMCJ36	HFN	36.0	40.00	50.70	1	64.3	46.6	5
3.0SMCJ36A	HFP	36.0	40.00	46.00	1	58.1	51.6	5
3.0SMCJ40	HFQ	40.0	44.40	56.30	1	71.4	42.0	5
3.0SMCJ40A	HFR	40.0	44.40	51.10	1	64.5	46.4	5
3.0SMCJ43	HFS	43.0	47.80	60.50	1	76.7	39.2	5
3.0SMCJ43A	HFT	43.0	47.80	54.90	1	69.4	43.2	5
3.0SMCJ45	HFU	45.0	50.00	63.30	1	80.3	37.4	5
3.0SMCJ45A	HFV	45.0	50.00	57.50	1	72.7	41.2	5
3.0SMCJ48	HFW	48.0	53.30	67.50	1	85.5	35.0	5
3.0SMCJ48A	HFX	48.0	53.30	61.30	1	77.4	38.8	5
3.0SMCJ51	HFY	51.0	56.70	71.80	1	91.1	37.0	5
3.0SMCJ51A	HFZ	51.0	56.70	65.20	1	82.4	36.4	5
3.0SMCJ54	HGD	54.0	60.00	76.00	1	96.3	31.2	5
3.0SMCJ54A	HGE	54.0	60.00	69.00	1	87.1	34.4	5
3.0SMCJ58	HGF	58.0	64.40	81.60	1	103.0	39.2	5
3.0SMCJ58A	HGG	58.0	64.40	74.10	1	93.6	32.0	5
3.0SMCJ60	HGH	60.0	66.70	84.50	1	107.0	28.0	5
3.0SMCJ60A	HGK	60.0	66.70	76.70	1	96.8	31.0	5
3.0SMCJ64	HGL	64.0	71.10	90.10	1	114.0	26.4	5
3.0SMCJ64A	HGM	64.0	71.10	81.80	1	103.0	29.2	5
3.0SMCJ70	HGN	70.0	77.80	98.60	1	125.0	24.0	5
3.0SMCJ70A	HGP	70.0	77.80	89.50	1	113.0	26.6	5
3.0SMCJ75	HGQ	75.0	83.30	105.70	1	134.0	22.4	5
3.0SMCJ75A	HGR	75.0	83.30	95.80	1	121.0	24.8	5
3.0SMCJ78	HGS	78.0	86.70	109.80	1	139.0	21.6	5
3.0SMCJ78A	HGT	78.0	86.70	99.70	1	126.0	22.8	5
3.0SMCJ85	HGU	85.0	94.40	119.20	1	151.0	19.8	5
3.0SMCJ85A	HGV	85.0	94.40	108.20	1	137.0	20.8	5
3.0SMCJ90	HGW	90.0	100.00	126.50	1	160.0	18.8	5
3.0SMCJ90A	HGX	90.0	100.00	115.50	1	146.0	20.6	5
3.0SMCJ100	HGY	100.0	111.00	141.00	1	179.0	16.8	5
3.0SMCJ100A	HGZ	100.0	111.00	128.00	1	162.0	18.6	5
3.0SMCJ110	HHD	110.0	122.00	154.50	1	196.0	15.4	5
3.0SMCJ110A	HHE	110.0	122.00	140.50	1	177.0	16.8	5
3.0SMCJ120	HHF	120.0	133.00	169.00	1	214.0	14.0	5
3.0SMCJ120A	HHG	120.0	133.00	153.00	1	193.0	15.6	5
3.0SMCJ130	HHH	130.0	144.00	182.50	1	231.0	13.0	5
3.0SMCJ130A	HHK	130.0	144.00	165.50	1	209.0	14.4	5
3.0SMCJ150	HHL	150.0	167.00	211.50	1	268.0	11.2	5
3.0SMCJ150A	HHM	150.0	167.00	192.50	1	243.0	12.4	5
3.0SMCJ160	HHN	160.0	178.00	226.00	1	287.0	10.4	5
3.0SMCJ160A	HHP	160.0	178.00	205.00	1	259.0	11.6	5
3.0SMCJ170	HHQ	170.0	189.00	239.50	1	304.0	9.8	5
3.0SMCJ170A	HHR	170.0	189.00	217.50	1	275.0	11.0	5

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3.0SMCJ5.0C	IDD	5.0	6.40	7.55	10	9.6	312.5	2000
3.0SMCJ5.0CA	IDE	5.0	6.40	7.25	10	9.2	326.0	2000
3.0SMCJ6.0C	IDF	6.0	6.67	8.45	10	11.4	263.2	2000
3.0SMCJ6.0CA	IDG	6.0	6.67	7.67	10	10.3	291.3	2000
3.0SMCJ6.5C	IDH	6.5	7.22	9.14	10	12.3	243.9	1000
3.0SMCJ6.5CA	IDK	6.5	7.22	8.30	10	11.2	267.9	1000
3.0SMCJ7.0C	IDL	7.0	7.78	9.86	10	13.3	225.6	400
3.0SMCJ7.0CA	IDM	7.0	7.78	8.95	10	12.0	250.0	400
3.0SMCJ7.5C	IDN	7.5	8.33	10.67	1	14.3	209.8	200
3.0SMCJ7.5CA	IDP	7.5	8.33	9.58	1	12.9	232.6	200
3.0SMCJ8.0C	IDQ	8.0	8.89	11.30	1	15.0	200.0	100
3.0SMCJ8.0CA	IDR	8.0	8.89	10.23	1	13.6	220.6	100
3.0SMCJ8.5C	IDS	8.5	9.44	11.92	1	15.9	188.8	50
3.0SMCJ8.5CA	IDT	8.5	9.44	10.82	1	14.4	208.4	50
3.0SMCJ9.0C	IDU	9.0	10.00	12.60	1	16.9	177.4	20
3.0SMCJ9.0CA	IDV	9.0	10.00	11.50	1	15.4	194.8	20
3.0SMCJ10C	IDW	10.0	11.10	14.10	1	18.8	159.6	5
3.0SMCJ10CA	IDX	10.0	11.10	12.80	1	17.0	176.4	5
3.0SMCJ11C	IDY	11.0	12.20	15.40	1	20.1	149.2	5
3.0SMCJ11CA	IDZ	11.0	12.20	14.00	1	18.2	184.8	5
3.0SMCJ12C	IED	12.0	13.30	16.90	1	22.0	136.4	5
3.0SMCJ12CA	IEE	12.0	13.30	15.30	1	19.9	150.6	5
3.0SMCJ13C	IEF	13.0	14.40	18.20	1	23.8	126.0	5
3.0SMCJ13CA	IEG	13.0	14.40	16.50	1	21.5	139.4	5
3.0SMCJ14C	IEH	14.0	15.60	19.80	1	25.8	116.2	5
3.0SMCJ14CA	IEK	14.0	15.60	17.90	1	23.2	129.4	5
3.0SMCJ15C	IEL	15.0	16.70	21.10	1	26.9	111.6	5
3.0SMCJ15CA	IEM	15.0	16.70	19.20	1	24.4	123.0	5
3.0SMCJ16C	IEN	16.0	17.80	22.60	1	28.8	104.2	5
3.0SMCJ16CA	IEP	16.0	17.80	20.50	1	26.0	115.4	5
3.0SMCJ17C	IEQ	17.0	18.90	23.90	1	30.5	98.4	5
3.0SMCJ17CA	IER	17.0	18.90	21.70	1	27.6	106.6	5
3.0SMCJ18C	IES	18.0	20.00	25.30	1	32.2	93.2	5
3.0SMCJ18CA	IET	18.0	20.00	23.30	1	29.2	102.8	5
3.0SMCJ20C	IEU	20.0	22.20	28.10	1	35.8	83.8	5
3.0SMCJ20CA	IEV	20.0	22.20	25.50	1	32.4	92.6	5
3.0SMCJ22C	IEW	22.0	24.40	30.90	1	39.4	76.2	5
3.0SMCJ22CA	IEX	22.0	24.40	28.00	1	35.5	84.4	5
3.0SMCJ24C	IEY	24.0	26.70	33.80	1	43.0	69.8	5
3.0SMCJ24CA	IEZ	24.0	26.70	30.70	1	38.9	77.2	5
3.0SMCJ26C	IFD	26.0	28.90	36.60	1	46.6	64.4	5
3.0SMCJ26CA	IFE	26.0	28.90	33.20	1	42.1	71.2	5
3.0SMCJ28C	IFF	28.0	31.10	39.40	1	50.0	60.0	5
3.0SMCJ28CA	IFG	28.0	31.10	35.80	1	45.4	66.0	5
3.0SMCJ30C	IFH	30.0	33.30	42.20	1	53.5	56.0	5
3.0SMCJ30CA	IFK	30.0	33.30	38.30	1	48.4	62.0	5
3.0SMCJ33C	IFL	33.0	36.70	46.50	1	59.0	50.4	5
3.0SMCJ33CA	IFM	33.0	36.70	42.20	1	53.3	56.2	5
3.0SMCJ36C	IFN	36.0	40.00	50.70	1	64.3	46.6	5
3.0SMCJ36CA	IFP	36.0	40.00	46.00	1	58.1	51.6	5
3.0SMCJ40C	IFQ	40.0	44.40	56.30	1	71.4	42.0	5
3.0SMCJ40CA	IFR	40.0	44.40	51.10	1	64.5	46.4	5
3.0SMCJ43C	IFS	43.0	47.80	60.50	1	76.7	39.2	5
3.0SMCJ43CA	IFT	43.0	47.80	54.90	1	69.4	43.2	5
3.0SMCJ45C	IFU	45.0	50.00	63.30	1	80.3	37.4	5
3.0SMCJ45CA	IFV	45.0	50.00	57.50	1	72.7	41.2	5
3.0SMCJ48C	IFW	48.0	53.30	67.50	1	85.5	35.0	5
3.0SMCJ48CA	IFX	48.0	53.30	61.30	1	77.4	38.8	5
3.0SMCJ51C	IFY	51.0	56.70	71.80	1	91.1	37.0	5
3.0SMCJ51CA	IFZ	51.0	56.70	65.20	1	82.4	36.4	5
3.0SMCJ54C	IGD	54.0	60.00	76.00	1	96.3	31.2	5
3.0SMCJ54CA	IGE	54.0	60.00	69.00	1	87.1	34.4	5
3.0SMCJ58C	IGF	58.0	64.40	81.60	1	103.0	39.2	5
3.0SMCJ58CA	IGG	58.0	64.40	74.10	1	93.6	32.0	5
3.0SMCJ60C	IGH	60.0	66.70	84.50	1	107.0	28.0	5
3.0SMCJ60CA	IGK	60.0	66.70	76.70	1	96.8	31.0	5
3.0SMCJ64C	IGL	64.0	71.10	90.10	1	114.0	26.4	5
3.0SMCJ64CA	IGM	64.0	71.10	81.80	1	103.0	29.2	5
3.0SMCJ70C	IGN	70.0	77.80	98.60	1	125.0	24.0	5
3.0SMCJ70CA	IGP	70.0	77.80	89.50	1	113.0	26.6	5
3.0SMCJ75C	IGQ	75.0	83.30	105.70	1	134.0	22.4	5
3.0SMCJ75CA	IGR	75.0	83.30	95.80	1	121.0	24.8	5
3.0SMCJ78C	IGS	78.0	86.70	109.80	1	139.0	21.6	5
3.0SMCJ78CA	IGT	78.0	86.70	99.70	1	126.0	22.8	5
3.0SMCJ85C	IGU	85.0	94.40	119.20	1	151.0	19.8	5
3.0SMCJ85CA	IGV	85.0	94.40	108.20	1	137.0	20.8	5
3.0SMCJ90C	IGW	90.0	100.00	126.50	1	160.0	18.8	5
3.0SMCJ90CA	IGX	90.0	100.00	115.50	1	146.0	20.6	5
3.0SMCJ100C	IGY	100.0	111.00	141.00	1	179.0	16.6	5
3.0SMCJ100CA	IGZ	100.0	111.00	128.00	1	162.0	18.6	5
3.0SMCJ110C	IHD	110.0	122.00	154.50	1	196.0	15.4	5
3.0SMCJ110CA	IHE	110.0	122.00	140.50	1	177.0	16.8	5
3.0SMCJ120C	IHF	120.0	133.00	169.00	1	214.0	14.0	5
3.0SMCJ120CA	IHG	120.0	133.00	153.00	1	193.0	15.6	5
3.0SMCJ130C	IHH	130.0	144.00	182.50	1	231.0	13.0	5
3.0SMCJ130CA	IHK	130.0	144.00	165.50	1	209.0	14.4	5
3.0SMCJ150C	IHL	150.0	167.00	211.50	1	268.0	11.2	5
3.0SMCJ150CA	IHM	150.0	167.00	192.50	1	243.0	12.4	5
3.0SMCJ160C	IHN	160.0	178.00	226.00	1	287.0	10.4	5
3.0SMCJ160CA	IHP	160.0	178.00	205.00	1	259.0	11.6	5
3.0SMCJ170C	IHQ	170.0	189.00	239.50	1	304.0	9.8	5
3.0SMCJ170CA	IHR	170.0	189.00	217.50	1	275.0	11.0	5

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