DATA SHEET

SEMICONDUCTOR

3.0SMCJ -A Series

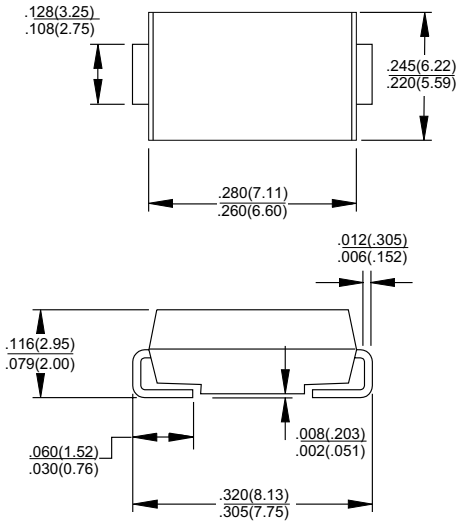
SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE 5.0 to 440 Volts 3000 Watt Peak Power Pulse

FEATURES

- For surface mounted applications in order to optimize board space.
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals
- Pb free product at available : 99% Sn above meet RoHS environment substance directive request
- AEC-Q101 qualified

SMC/DO-214AB Unit:inch(mm)



MECHANICAL DATA

- Case: JEDEC DO-214AB,Molded plastic over passivated junction.
  Base P/N - RoHS compliant, commercial grade
  Base P/N-A - RoHS compliant, AEC-Q101 qualified
- Terminals: Solder plated,solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes positive end (cathode)
- Standard Packaging:16mm tape (EIA-481)
- Quantify Per Reel : 3000 pcs

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 3.0SMCJ5.0 thru types 3.0SMCJ440A.
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°Cambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.
For Capacitive load derate current by 20%.

RATING	SYMBOL	VALUE	UNITS
Peak Power Dissipation on 10/1000us waveform (Note1.2 , Fig.1)	Ppp	3000	Watts
Peak Forward Surge Current, 8.3ms single half sine - wave uni- directional only (JEDEC method) (Notes 2,3)	I_{FSM}	200	Amps
Peak Pulse Current on 10/1000s waveform(Note 1 , Fig.3)	I_{PP}	See Table 1	Amps
Operating and Storage Temperature Range	TJ, TSTG	-55 ~ +150	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above TA = 25°C per Fig.2.
2. Mounted on 5.0 mm^2(0.13mm thick) land areas.
3. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

3.0SMCJ -A Series

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage	Peak Pulse Current	Package	
			VBR @ IT		IT	IR@VRWM		Vc@ Ipp	Ipp	SMC/DO-214AB	
		VRWM	Min.	Max.		UNI	BI			Device Marking Code	
UNI	BI	V	V	V	m A	μA	μA	V	A	UNI	BI
3000W Transient Voltage Suppresor											
3.0SMCJ5.0	3.0SMCJ5.0C	5.0	6.40	7.30	10	1000	2000	9.6	312.50	3C5.0V	3C5.0C
3.0SMCJ5.0A	3.0SMCJ5.0CA	5.0	6.40	7.00	10	1000	2000	9.2	326.09	3C5.0A	3C5.0D
3.0SMCJ6.0	3.0SMCJ6.0C	6.0	6.67	8.15	10	1000	2000	11.4	263.16	3C6.0V	3C6.0C
3.0SMCJ6.0A	3.0SMCJ6.0CA	6.0	6.67	7.37	10	1000	2000	10.3	291.26	3C6.0A	3C6.0D
3.0SMCJ6.5	3.0SMCJ6.5C	6.5	7.22	8.82	10	500	1000	12.3	243.90	3C6.5V	3C6.5C
3.0SMCJ6.5A	3.0SMCJ6.5CA	6.5	7.22	7.98	10	500	1000	11.2	267.86	3C6.5A	3C6.5D
3.0SMCJ7.0	3.0SMCJ7.0C	7.0	7.78	9.51	10	200	400	13.3	225.56	3C7.0V	3C7.0C
3.0SMCJ7.0A	3.0SMCJ7.0CA	7.0	7.78	8.60	10	200	400	12.0	250.00	3C7.0A	3C7.0D
3.0SMCJ7.5	3.0SMCJ7.5C	7.5	8.33	10.20	1	100	200	14.3	209.79	3C7.5V	3C7.5C
3.0SMCJ7.5A	3.0SMCJ7.5CA	7.5	8.33	9.21	1	100	200	12.9	232.56	3C7.5A	3C7.5D
3.0SMCJ8.0	3.0SMCJ8.0C	8.0	8.89	10.90	1	50	100	15.0	200.00	3C8.0V	3C8.0C
3.0SMCJ8.0A	3.0SMCJ8.0CA	8.0	8.89	9.83	1	50	100	13.6	220.59	3C8.0A	3C8.0D
3.0SMCJ8.5	3.0SMCJ8.5C	8.5	9.44	11.50	1	25	50	15.9	188.68	3C8.5V	3C8.5C
3.0SMCJ8.5A	3.0SMCJ8.5CA	8.5	9.44	10.40	1	25	50	14.4	208.33	3C8.5A	3C8.5D
3.0SMCJ9.0	3.0SMCJ9.0C	9.0	10.00	12.20	1	10	20	16.9	177.51	3C9.0V	3C9.0C
3.0SMCJ9.0A	3.0SMCJ9.0CA	9.0	10.00	11.10	1	10	20	15.4	194.81	3C9.0A	3C9.0D
3.0SMCJ10	3.0SMCJ10C	10.0	11.10	13.60	1	5	5	18.8	159.57	3C10V	3C10C
3.0SMCJ10A	3.0SMCJ10CA	10.0	11.10	12.30	1	5	5	17.0	176.47	3C10A	3C10D
3.0SMCJ11	3.0SMCJ11C	11.0	12.20	14.90	1	5	5	20.1	149.25	3C11V	3C11C
3.0SMCJ11A	3.0SMCJ11CA	11.0	12.20	13.50	1	5	5	18.2	164.84	3C11A	3C11D
3.0SMCJ12	3.0SMCJ12C	12.0	13.30	16.30	1	5	5	22.0	136.36	3C12V	3C12C
3.0SMCJ12A	3.0SMCJ12CA	12.0	13.30	14.70	1	5	5	19.9	150.75	3C12A	3C12D
3.0SMCJ13	3.0SMCJ13C	13.0	14.40	17.60	1	5	5	23.8	126.05	3C13V	3C13C
3.0SMCJ13A	3.0SMCJ13CA	13.0	14.40	15.90	1	5	5	21.5	139.53	3C13A	3C13D
3.0SMCJ14	3.0SMCJ14C	14.0	15.60	19.10	1	5	5	25.8	116.28	3C14V	3C14C
3.0SMCJ14A	3.0SMCJ14CA	14.0	15.60	17.20	1	5	5	23.2	129.31	3C14A	3C14D
3.0SMCJ15	3.0SMCJ15C	15.0	16.70	20.40	1	5	5	26.9	111.52	3C15V	3C15C
3.0SMCJ15A	3.0SMCJ15CA	15.0	16.70	18.50	1	5	5	24.4	122.95	3C15A	3C15D
3.0SMCJ16	3.0SMCJ16C	16.0	17.80	21.80	1	5	5	28.8	104.17	3C16V	3C16C
3.0SMCJ16A	3.0SMCJ16CA	16.0	17.80	19.70	1	5	5	26.0	115.38	3C16A	3C16D
3.0SMCJ17	3.0SMCJ17C	17.0	18.90	23.10	1	5	5	30.5	98.36	3C17V	3C17C
3.0SMCJ17A	3.0SMCJ17CA	17.0	18.90	20.90	1	5	5	27.6	108.70	3C17A	3C17D
3.0SMCJ18	3.0SMCJ18C	18.0	20.00	24.40	1	5	5	32.2	93.17	3C18V	3C18C
3.0SMCJ18A	3.0SMCJ18CA	18.0	20.00	22.10	1	5	5	29.2	102.74	3C18A	3C18D
3.0SMCJ19	3.0SMCJ18C	19.0	21.13	25.76	1	5	5	34.0	88.21	3C19V	3C19C
3.0SMCJ19A	3.0SMCJ18CA	19.0	21.10	23.30	1	5	5	30.8	97.47	3C19A	3C19D
3.0SMCJ20	3.0SMCJ20C	20.0	22.20	27.10	1	5	5	35.8	83.80	3C20V	3C20C
3.0SMCJ20A	3.0SMCJ20CA	20.0	22.20	24.50	1	5	5	32.4	92.59	3C20A	3C20D
3.0SMCJ22	3.0SMCJ22C	22.0	24.40	29.80	1	5	5	39.4	76.14	3C22V	3C22C
3.0SMCJ22A	3.0SMCJ22CA	22.0	24.40	26.90	1	5	5	35.5	84.51	3C22A	3C22D
3.0SMCJ24	3.0SMCJ24C	24.0	26.70	32.60	1	5	5	43.0	69.77	3C24V	3C24C
3.0SMCJ24A	3.0SMCJ24CA	24.0	26.70	29.50	1	5	5	38.9	77.12	3C24A	3C24D
3.0SMCJ26	3.0SMCJ26C	26.0	28.90	35.30	1	5	5	46.6	64.38	3C26V	3C26C
3.0SMCJ26A	3.0SMCJ26CA	26.0	28.90	31.90	1	5	5	42.1	71.26	3C26A	3C26D

3.0SMCJ -A Series

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage	Peak Pulse Current	Package	
			VBR @ IT		IT	IR@VRWM		Vc@ Ipp	Ipp	SMC/DO-214AB	
		VRWM	Min.	Max.		UNI	BI			Device Marking Code	
UNI	BI	V	V	V	m A	μA	μA	V	A	UNI	BI
3000W Transient Voltage Suppresor											
3.0SMCJ28	3.0SMCJ28C	28.0	31.10	38.00	1	5	5	50.0	60.00	3C28V	3C28C
3.0SMCJ28A	3.0SMCJ28CA	28.0	31.10	34.40	1	5	5	45.4	66.08	3C28A	3C28D
3.0SMCJ30	3.0SMCJ30C	30.0	33.30	40.70	1	5	5	53.5	56.07	3C30V	3C30C
3.0SMCJ30A	3.0SMCJ30CA	30.0	33.30	36.80	1	5	5	48.4	61.98	3C30A	3C30D
3.0SMCJ33	3.0SMCJ33C	33.0	36.70	44.90	1	5	5	59.0	50.85	3C33V	3C33C
3.0SMCJ33A	3.0SMCJ33CA	33.0	36.70	40.60	1	5	5	53.3	56.29	3C33A	3C33D
3.0SMCJ36	3.0SMCJ36C	36.0	40.00	48.90	1	5	5	64.3	46.66	3C36V	3C36C
3.0SMCJ36A	3.0SMCJ36CA	36.0	40.00	44.20	1	5	5	58.1	54.64	3C36A	3C36D
3.0SMCJ40	3.0SMCJ40C	40.0	44.40	54.30	1	5	5	71.4	42.02	3C40V	3C40C
3.0SMCJ40A	3.0SMCJ40CA	40.0	44.40	49.10	1	5	5	64.5	46.51	3C40A	3C40D
3.0SMCJ43	3.0SMCJ43C	43.0	47.80	58.40	1	5	5	76.7	39.11	3C43V	3C43C
3.0SMCJ43A	3.0SMCJ43CA	43.0	47.80	52.80	1	5	5	69.4	43.23	3C43A	3C43D
3.0SMCJ45	3.0SMCJ45C	45.0	50.00	61.10	1	5	5	80.3	37.36	3C45V	3C45C
3.0SMCJ45A	3.0SMCJ45CA	45.0	50.00	55.30	1	5	5	72.7	41.27	3C45A	3C45D
3.0SMCJ48	3.0SMCJ48C	48.0	53.30	65.10	1	5	5	85.5	35.09	3C48V	3C48C
3.0SMCJ48A	3.0SMCJ48CA	48.0	53.30	58.90	1	5	5	77.4	38.76	3C48A	3C48D
3.0SMCJ51	3.0SMCJ51C	51.0	56.70	69.30	1	5	5	91.1	32.93	3C51V	3C51C
3.0SMCJ51A	3.0SMCJ51CA	51.0	56.70	62.70	1	5	5	82.4	36.41	3C51A	3C51D
3.0SMCJ54	3.0SMCJ54C	54.0	60.00	73.30	1	5	5	96.3	31.15	3C54V	3C54C
3.0SMCJ54A	3.0SMCJ54CA	54.0	60.00	66.30	1	5	5	87.1	34.44	3C54A	3C54D
3.0SMCJ58	3.0SMCJ58C	58.0	64.40	78.70	1	5	5	103.0	29.13	3C58V	3C58C
3.0SMCJ58A	3.0SMCJ58CA	58.0	64.40	71.20	1	5	5	93.6	32.05	3C58A	3C58D
3.0SMCJ60	3.0SMCJ60C	60.0	66.70	81.50	1	5	5	107.0	28.04	3C60V	3C60C
3.0SMCJ60A	3.0SMCJ60CA	60.0	66.70	73.70	1	5	5	96.8	30.99	3C60A	3C60D
3.0SMCJ64	3.0SMCJ64C	64.0	71.10	86.90	1	5	5	114.0	26.32	3C64V	3C64C
3.0SMCJ64A	3.0SMCJ64CA	64.0	71.10	78.60	1	5	5	103.0	29.13	3C64A	3C64D
3.0SMCJ70	3.0SMCJ70C	70.0	77.80	95.10	1	5	5	125.0	24.00	3C70V	3C70C
3.0SMCJ70A	3.0SMCJ70CA	70.0	77.80	86.00	1	5	5	113.0	26.55	3C70A	3C70D
3.0SMCJ75	3.0SMCJ75C	75.0	83.30	102.00	1	5	5	134.0	22.39	3C75V	3C75C
3.0SMCJ75A	3.0SMCJ75CA	75.0	83.30	92.10	1	5	5	121.0	24.79	3C75A	3C75D
3.0SMCJ78	3.0SMCJ78C	78.0	86.70	106.00	1	5	5	139.0	21.58	3C78V	3C78C
3.0SMCJ78A	3.0SMCJ78CA	78.0	86.70	95.80	1	5	5	126.0	23.81	3C78A	3C78D
3.0SMCJ80	3.0SMCJ80C	80.0	88.96	108.80	1	5	5	143.2	20.95	3C80V	3C80C
3.0SMCJ80A	3.0SMCJ80CA	80.0	88.80	97.60	1	5	5	129.6	23.15	3C80A	3C80D
3.0SMCJ85	3.0SMCJ85C	85.0	94.40	115.00	1	5	5	151.0	19.87	3C85V	3C85C
3.0SMCJ85A	3.0SMCJ85CA	85.0	94.40	104.00	1	5	5	137.0	21.90	3C85A	3C85D
3.0SMCJ90	3.0SMCJ90C	90.0	100.00	122.00	1	5	5	160.0	18.75	3C90V	3C90C
3.0SMCJ90A	3.0SMCJ90CA	90.0	100.00	111.00	1	5	5	146.0	20.55	3C90A	3C90D
3.0SMCJ100	3.0SMCJ100C	100.0	111.00	136.00	1	5	5	179.0	16.76	3C100V	3C100C
3.0SMCJ100A	3.0SMCJ100CA	100.0	111.00	123.00	1	5	5	162.0	18.52	3C100A	3C100D
3.0SMCJ110	3.0SMCJ110C	110.0	122.00	149.00	1	5	5	196.0	15.31	3C110V	3C110C
3.0SMCJ110A	3.0SMCJ110CA	110.0	122.00	135.00	1	5	5	177.0	16.95	3C110A	3C110D
3.0SMCJ120	3.0SMCJ120C	120.0	133.00	163.00	1	5	5	214.0	14.02	3C120V	3C120C
3.0SMCJ120A	3.0SMCJ120CA	120.0	133.00	147.00	1	5	5	193.0	15.54	3C120A	3C120D

3.0SMCJ -A Series

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage	Peak Pulse Current	Package	
			VBR @ IT		IT	IR@VRWM		Vc@ Ipp	Ipp	SMC/DO-214AB	
		VRWM	Min.	Max.		UNI	BI			Device Marking Code	
UNI	BI	V	V	V	m A	μA	μA	V	A	UNI	BI
3000W Transient Voltage Suppresor											
3.0SMCJ130	3.0SMCJ130C	130.0	144.00	176.00	1	5	5	231.0	12.99	3C130V	3C130C
3.0SMCJ130A	3.0SMCJ130CA	130.0	144.00	159.00	1	5	5	209.0	14.35	3C130A	3C130D
3.0SMCJ140	3.0SMCJ140C	140.0	155.68	190.40	1	5	5	250.6	11.97	3C140V	3C140C
3.0SMCJ140A	3.0SMCJ140CA	140.0	155.00	171.00	1	5	5	226.8	13.23	3C140A	3C140D
3.0SMCJ150	3.0SMCJ150C	150.0	167.00	204.00	1	5	5	268.0	11.19	3C150V	3C150C
3.0SMCJ150A	3.0SMCJ150CA	150.0	167.00	185.00	1	5	5	243.0	12.35	3C150A	3C150D
3.0SMCJ160	3.0SMCJ160C	160.0	178.00	218.00	1	5	5	287.0	10.45	3C160V	3C160C
3.0SMCJ160A	3.0SMCJ160CA	160.0	178.00	197.00	1	5	5	259.0	11.58	3C160A	3C160D
3.0SMCJ170	3.0SMCJ170C	170.0	189.00	231.00	1	5	5	304.0	9.87	3C170V	3C170C
3.0SMCJ170A	3.0SMCJ170CA	170.0	189.00	209.00	1	5	5	275.0	10.91	3C170A	3C170D
3.0SMCJ180	3.0SMCJ180C	180.0	200.16	244.80	1	5	5	322.2	9.31	3C180V	3C180C
3.0SMCJ180A	3.0SMCJ180CA	180.0	200.00	220.00	1	5	5	291.6	10.29	3C180A	3C180D
3.0SMCJ190	3.0SMCJ190C	190.0	211.28	258.40	1	5	5	340.1	8.82	3C190V	3C190C
3.0SMCJ190A	3.0SMCJ190CA	190.0	211.00	232.00	1	5	5	307.8	9.75	3C190A	3C190D
3.0SMCJ200A	3.0SMCJ200CA	200.0	224.00	247.00	1	5	5	324.0	9.26	3C200A	3C200D
3.0SMCJ220A	3.0SMCJ220CA	220.0	246.00	272.00	1	5	5	356.0	8.43	3C220A	3C220D
3.0SMCJ250A	3.0SMCJ250CA	250.0	279.00	309.00	1	5	5	405.0	7.41	3C250A	3C250D
3.0SMCJ300A	3.0SMCJ300CA	300.0	335.00	371.00	1	5	5	486.0	6.17	3C300A	3C300D
3.0SMCJ350A	3.0SMCJ350CA	350.0	391.00	432.00	1	5	5	567.0	5.29	3C350A	3C350D
3.0SMCJ400A	3.0SMCJ400CA	400.0	447.00	494.00	1	5	5	648.0	4.63	3C400A	3C400D
3.0SMCJ440A	3.0SMCJ440CA	440.0	492.00	543.00	1	5	5	713.0	4.21	3C440A	3C440D

DEVICE CHARACTERISTICS

3.0SMCJ -A Series

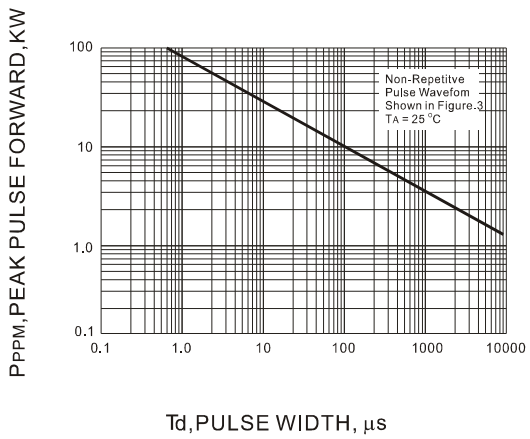


Fig.1 PEAK PULSE POWER RATING CURVE

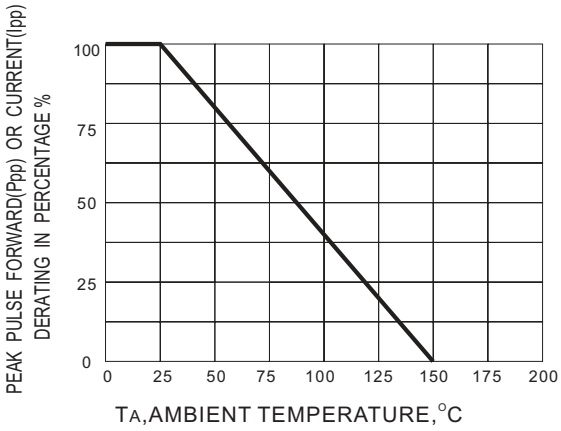


Fig.2 DERATING CURVE

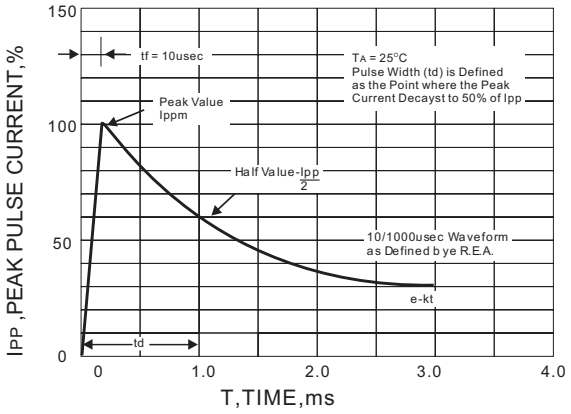


Fig.3 PULSE WAVE FORM

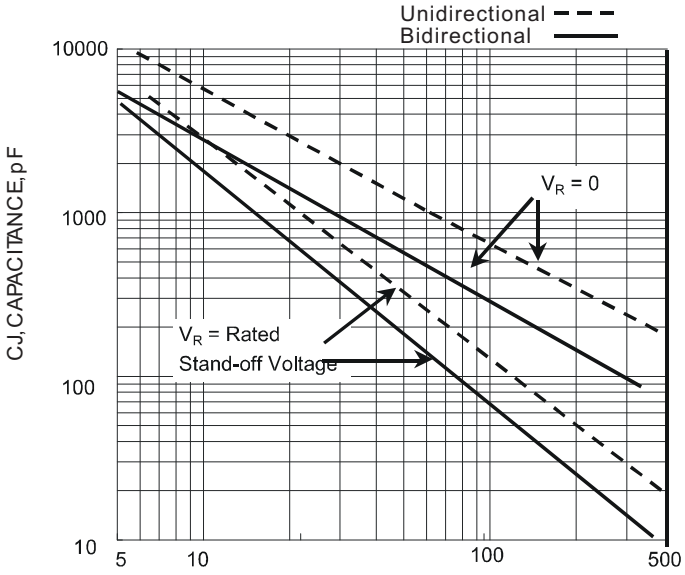


Fig.4 TYPICAL CAPACITANCE

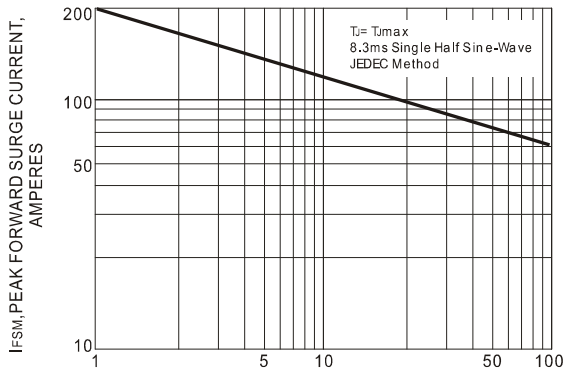


Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT