

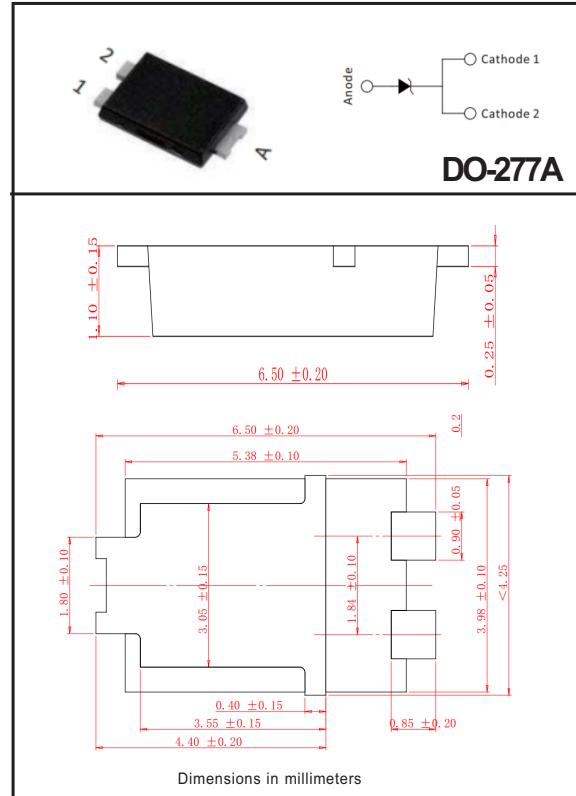
TRANSIENT VOLTAGE SUPPRESSOR

FEATURES

- * Very low profile - typical height of 1.1 mm
- * Ideal for automated placement
- * Unidirection only
- * Excellent clamping capability
- * Low incremental surge resistance
- * Very fast response time
- * Meets MSL level 1 per J-STD-020
- * Halogen-free

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.



MAXIMUM RATINGS ($T_A = 25\text{ °C}$, unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Peak power dissipation with a 10/1000 μs waveform (fig. 3) ⁽¹⁾⁽²⁾	P_{PPM}	1500	W
Peak power pulse current with a 10/1000 μs waveform (fig. 1) ⁽¹⁾	I_{PPM}	See next table	A
Peak forward surge current 8.3 ms single half sine-wave ⁽²⁾	I_{FSM}	200	A
Maximum instantaneous forward voltage at 100 A ⁽³⁾	V_F	3.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +150	°C

Notes

- (1) Non-repetitive current pulse, per fig. 3 and derated above $T_A = 25\text{ °C}$ per fig. 2
- (2) Measured on 8.3 ms single half sine-wave, or equivalent square wave, duty cycle = 4 pulses per minute maximum
- (3) Pulse test: 300 μs pulse width, 1 % duty cycle

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$, unless otherwise noted)

TYPE	MARKING CODE	BREAKDOWN VOLTAGE $V_{BR}^{(1)}$ AT I_T (V)			TEST CURRENT I_T (mA)	STAND-OFF VOLTAGE V_{WM} (V)	MAXIMUM REVERSE LEAKAGE AT V_{WM} I_R (μA)	MAXIMUM REVERSE LEAKAGE AT V_{WM} $T_J = 150\text{ }^\circ\text{C}$ I_D (μA)	MAXIMUM PEAK PULSE SURGE CURRENT $I_{PPM}^{(2)}$ (A)	MAXIMUM CLAMPING VOLTAGE AT I_{PPM} V_C (V)	TYPICAL TEMP. COEFFICIENT OF $V_{BR}^{(3)}$ α_T ($\%/^\circ\text{C}$)
		MIN.	NOM.	MAX.							
1.5FMPJ6.8BA	DEP	6.45	6.8	7.14	10	5.8	1500	10000	143	10.5	0.047
1.5FMPJ7.5BA	DGP	7.13	7.5	7.88	10	6.4	500	5000	133	11.3	0.052
1.5FMPJ8.2BA	DKP	7.79	8.2	8.61	10	7.02	200	2000	124	12.1	0.056
1.5FMPJ9.1BA	DMP	8.65	9.1	9.55	1	7.78	50	500	112	13.4	0.06
1.5FMPJ10BA	DPP	9.5	10	10.5	1	8.55	20	200	103	14.5	0.064
1.5FMPJ11BA	DRP	10.5	11	11.6	1	9.4	5	50	96.2	15.6	0.067
1.5FMPJ12BA	DTP	11.4	12	12.6	1	10.2	2	10	89.8	16.7	0.07
1.5FMPJ13BA	DVP	12.4	13	13.7	1	11.1	2	10	82.4	18.2	0.072
1.5FMPJ15BA	DXP	14.3	15	15.8	1	12.8	1	10	70.8	21.2	0.076
1.5FMPJ16BA	DZP	15.2	16	16.8	1	13.6	1	10	66.7	22.5	0.078
1.5FMPJ18BA	EEP	17.1	18	18.9	1	15.3	1	10	59.5	25.2	0.08
1.5FMPJ20BA	EGP	19	20	21	1	17.1	1	10	54.2	27.7	0.082
1.5FMPJ22BA	EKP	20.9	22	23.1	1	18.8	1	10	49	30.6	0.084
1.5FMPJ24BA	EMP	22.8	24	25.2	1	20.5	1	10	45.2	33.2	0.085
1.5FMPJ27BA	EPP	25.7	27	28.4	1	23.1	1	10	40	37.5	0.087
1.5FMPJ30BA	ERP	28.5	30	31.5	1	25.6	1	10	36.2	41.4	0.088
1.5FMPJ33BA	ETP	31.4	33	34.7	1	28.2	1	10	32.8	45.7	0.089
1.5FMPJ36BA	EVP	34.2	36	37.8	1	30.8	1	15	30.1	49.9	0.09
1.5FMPJ39BA	EXP	37.1	39	41	1	33.3	1	15	27.8	53.9	0.091
1.5FMPJ43BA	EZP	40.9	43	45.2	1	36.8	1	20	25.3	59.3	0.092
1.5FMPJ47BA	FEP	44.7	47	49.4	1	40.2	1	20	23.1	64.8	0.092
1.5FMPJ51BA	FGP	48.5	51	53.6	1	43.6	1	20	21.4	70.1	0.093

- Notes**
- (1) V_{BR} measured after I_T applied for 300 μs , I_T = square wave pulse or equivalent
 - (2) Surge current waveform per fig. 3 and derated per fig. 2
 - (3) To calculate V_{BR} vs. junction temperature, use the following formula: V_{BR} at $T_J = V_{BR}$ at $25\text{ }^\circ\text{C} \times (1 + \alpha_T \times (T_J - 25))$
 - (4) All terms and symbols are consistent with ANSI/IEEE C62.35
 - (5) Use B suffixes to indicate that the cathode is on the two-pin side

RATING AND CHARACTERISTICS CURVES (1.5FMPJxxBA SERIES)

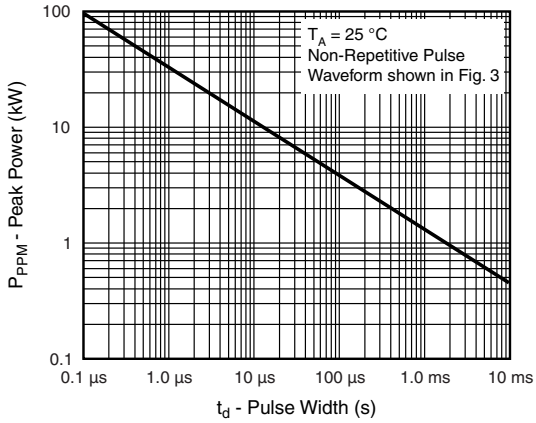


Fig. 1 - Peak Pulse Power Rating Curve

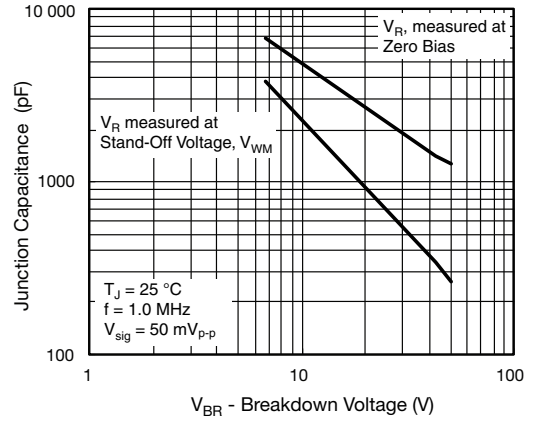


Fig. 4 - Typical Junction Capacitance

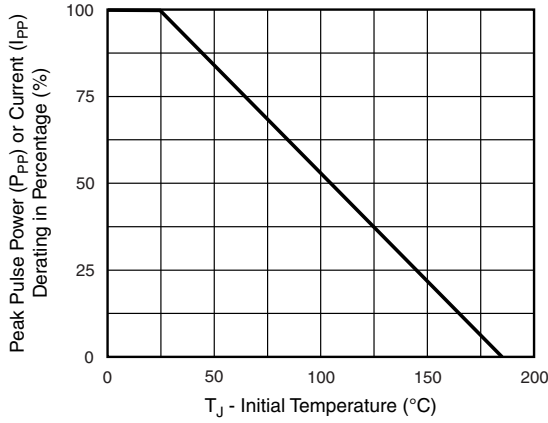


Fig. 2 - Pulse Power or Current vs. Initial Junction Temperature

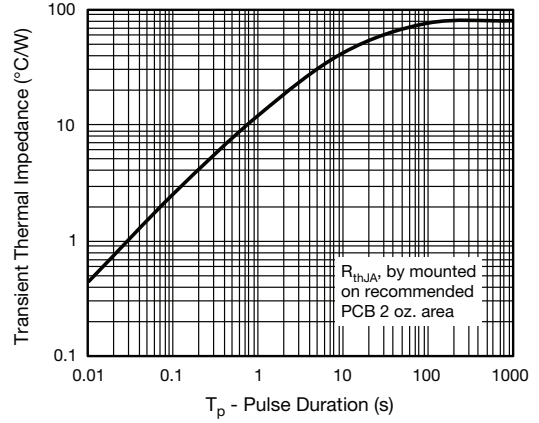


Fig. 5 - Typical Transient Thermal Impedance

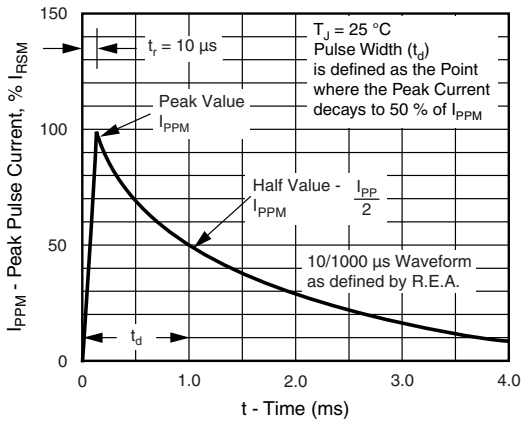
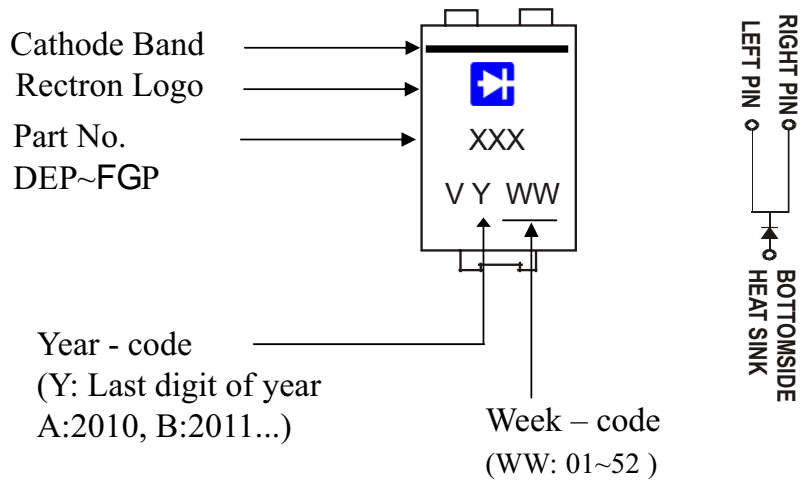


Fig. 3 - Pulse Waveform

Marking Description



Note: Pins Left & Right must be electrically connected at the printed circuit board.

PACKAGING OF DIODE AND BRIDGE RECTIFIERS

REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
DO-277A	-T/W	5,000	10,000	---	---	330	360*355*360	80,000	---

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