



A1A:500.XX

VOLTAGE RATINGS

Part Number	V _{RRM} , V _R (V) Max. rep. peak reverse voltage		V _{RSM} , V _R (V) Max. non-rep. peak reverse voltage
	T _J = 0 to 200°C	T _J = -40 to 0°C	T _J = 25 to 200°C
A1A:500.02	200	200	300
A1A:500.04	400	400	500
A1A:500.06	600	600	700
A1A:500.08	800	800	900

This datasheet applies to:

**Metric thread: A1A:500.XX,
A1B:500.XX**

**Inch thread: A2A:500.XX,
A2B:500.XX**

MAXIMUM ALLOWABLE RATINGS

PARAMETER	VALUE	UNITS	NOTES
T _J Junction Temperature	-40 to 200	°C	-
T _{stg} Storage Temperature	-40 to 200	°C	-
I _{F(AV)} Max. Av. current @ Max. T _C	500	A	180° half sine wave
	125	°C	
I _{F(RMS)} Nom. RMS current	950	A	-
I _{FSM} Max. Peak non-rep. surge current	10900	A	50 Hz half cycle sine wave Initial T _J = 200°C, rated V _{RRM} applied after surge.
	11450		60 Hz half cycle sine wave
	13000		50 Hz half cycle sine wave Initial T _J = 200°C, no voltage applied after surge.
	13600		60 Hz half cycle sine wave
I ² t Max. I ² t capability	546	kA ² s	t = 10ms Initial T _J = 200°C, rated V _{RRM} applied after surge.
	598		t = 8.3 ms
	772		t = 10ms Initial T _J = 200°C, no voltage applied after surge.
	845		t = 8.3 ms
I ² t ^{1/2} Max. I ² t ^{1/2} capability	8450	kA ² s ^{1/2}	Initial T _J = 200°C, no voltage applied after surge. I ² t for time t _x = I ² t ^{1/2} * t _x ^{1/2} . (0.1 < t _x < 10ms).
F Mounting Force	30(~267)	N.m(Lbf.in)	-



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CHARACTERISTICS

PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
V_{FM} Peak forward voltage	---	1.07	1.15	V	Initial $T_J = 25^\circ\text{C}$, sinusoidal wave, $I_{peak} = 1571\text{A}$.
$V_{F(TO)}$ Threshold voltage	---	---	0.68	V	$T_J = 200^\circ\text{C}$, Av. Power = $V_{F(TO)} * I_{F(AV)} + r_F * [I_{F(RMS)}]^2$, sine.
r_{F1} Forward slope resistance	---	---	0.07	m	Use low values for $I_{FM} < I_{F(AV)}$
I_{RM} Peak reverse current	---	30	40.00	mA	$T_J = 200^\circ\text{C}$. Max. Rated V_{RRM}
R_{thJC} Thermal resistance, junction-to-case	---	---	0.20	$^\circ\text{C/W}$	DC operation
	---	---	0.20	$^\circ\text{C/W}$	180° sine wave
	---	---	0.24	$^\circ\text{C/W}$	120° rectangular wave
R_{thCS} Thermal resistance, case-to-sink	---	---	0.03	$^\circ\text{C/W}$	Mtg. Surface smooth, flat and greased. Single side.
wt Weight	---	250(8.75)	---	g(oz.)	---
Case Style	DO-205AB (DO-9)		JEDEC	---	---

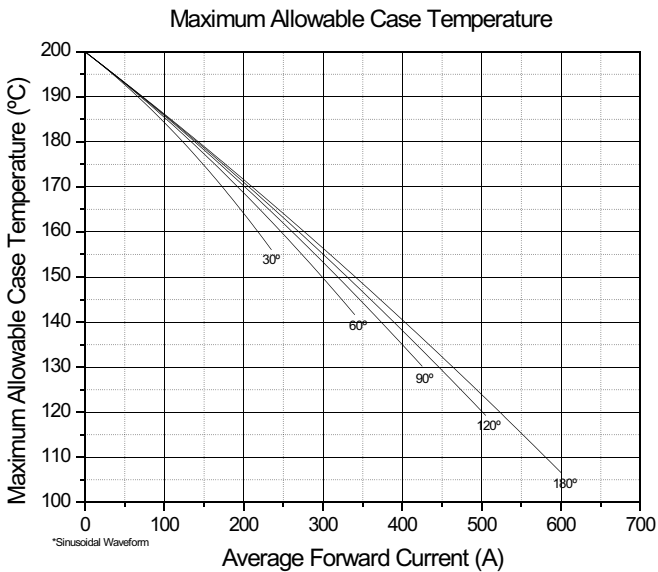


Fig. 1 - Current Ratings Characteristics

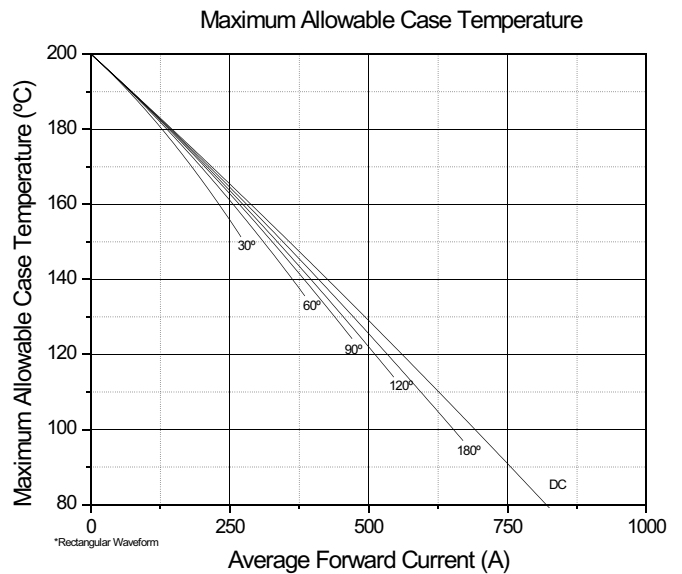


Fig. 2 - Current Ratings Characteristics



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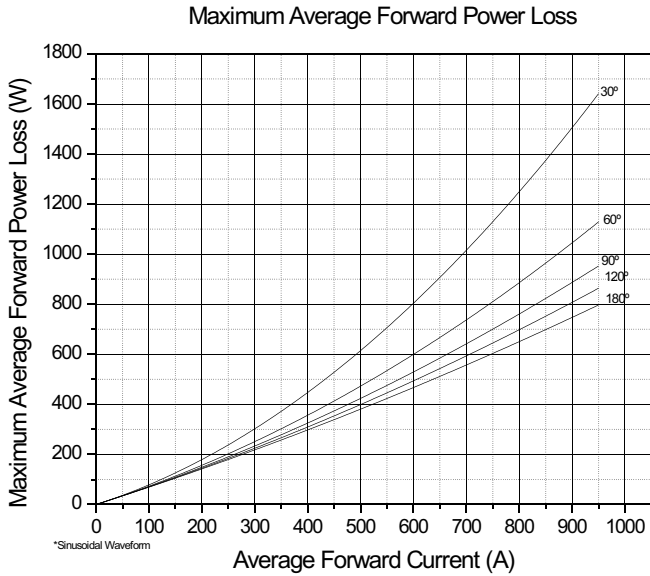


Fig. 3 - Forward Power Loss Characteristics

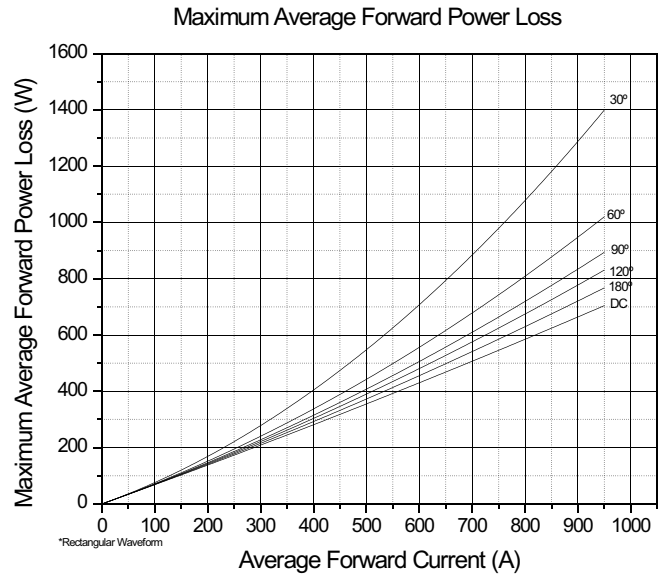


Fig. 4 - Forward Power Loss Characteristics

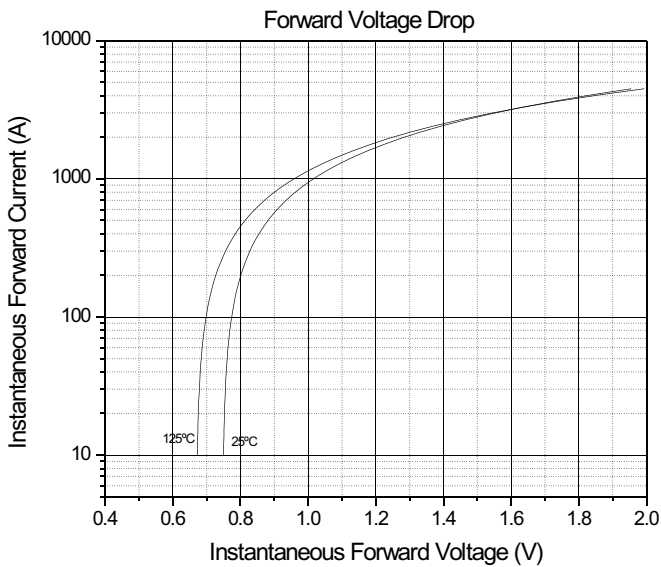


Fig. 5 - Forward Voltage Drop Characteristics

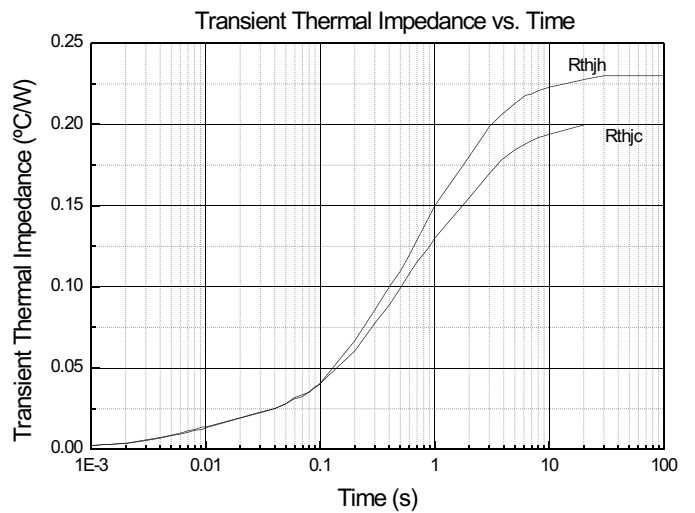


Fig. 6 - Transient Thermal Impedance Characteristics



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DO-205AB (DO-9)

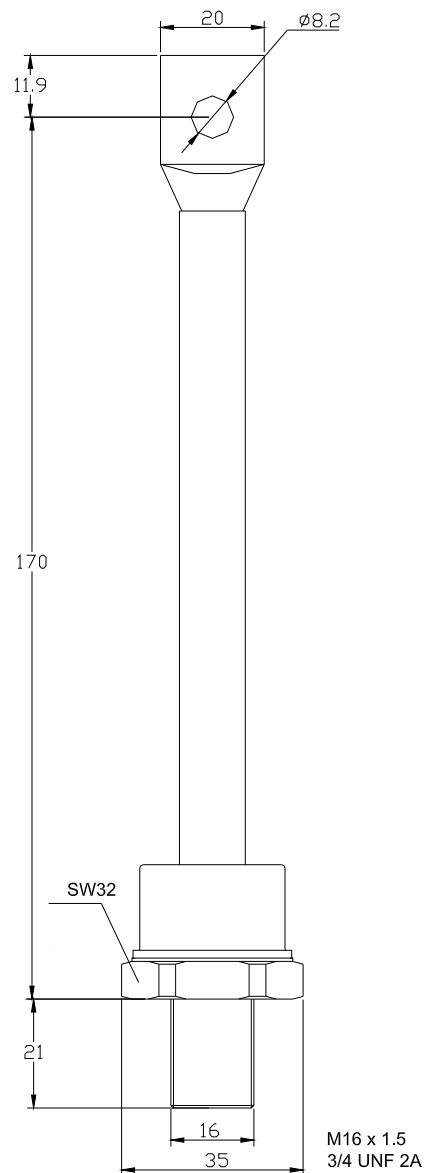


Fig. 7 - Outline Characteristics