



A1A:165.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:165.02	200	200
A1A:165.04	400	400	500
A1A:165.06	600	600	700
A1A:165.08	800	800	900

This datasheet applies to:

**Metric thread: A1A:165.XX,
A1B:165.XX**

**Inch thread: A2A:165.XX,
A2B:165.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	165	A	180° half sine wave
	125	°C	
$I_{F(RMS)}$ Nom. RMS current	280	A	-
I_{FSM} Max. Peak non-rep. surge current	2300	A	50 Hz half cycle sine wave Initial $T_J = 200^\circ\text{C}$, rated V_{RRM} applied after surge.
	2400		60 Hz half cycle sine wave
	2700		50 Hz half cycle sine wave Initial $T_J = 200^\circ\text{C}$, no voltage applied after surge.
	2850		60 Hz half cycle sine wave
I^2t Max. I^2t capability	26	kA^2s	$t = 10\text{ms}$ Initial $T_J = 200^\circ\text{C}$, rated V_{RRM} applied after surge.
	24		$t = 8.3\text{ms}$
	37		$t = 10\text{ms}$ Initial $T_J = 200^\circ\text{C}$, no voltage applied after surge.
	34		$t = 8.3\text{ms}$
$I^2t^{1/2}$ Max. $I^2t^{1/2}$ capability	220	$\text{kA}^2\text{s}^{1/2}$	Initial $T_J = 200^\circ\text{C}$, no voltage applied after surge. I^2t for time $t_x = I^2t^{1/2} * t_x^{1/2}$. ($0.1 < t_x < 10\text{ms}$).
F Mounting Force	10(~89)	N.m(Lbf.in)	-



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CHARACTERISTICS

PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
V_{FM} Peak forward voltage	---	1.1	1.20	V	Initial $T_J = 25^\circ\text{C}$, sinusoidal wave, $I_{peak} = 518\text{A}$.
$V_{F(TO)}$ Threshold voltage	---	---	0.83	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	---	---	0.65	$\text{m}\Omega$	Use low values for $I_{FM} < \pi I_{F(AV)}$
I_{RM} Peak reverse current	---	10	20.00	mA	$T_J = 200^\circ\text{C}$. Max. Rated V_{RRM}
R_{thJC} Thermal resistance, junction-to-case	---	---	0.35	$^\circ\text{C}/\text{W}$	DC operation
	---	---	0.40	$^\circ\text{C}/\text{W}$	180° sine wave
	---	---	0.43	$^\circ\text{C}/\text{W}$	120° rectangular wave
R_{thCS} Thermal resistance, case-to-sink	---	---	0.08	$^\circ\text{C}/\text{W}$	Mtg. Surface smooth, flat and greased. Single side.
wt Weight	---	100(3.5)	---	g(oz.)	---
Case Style	DO-205AA (DO-8)		JEDEC		---

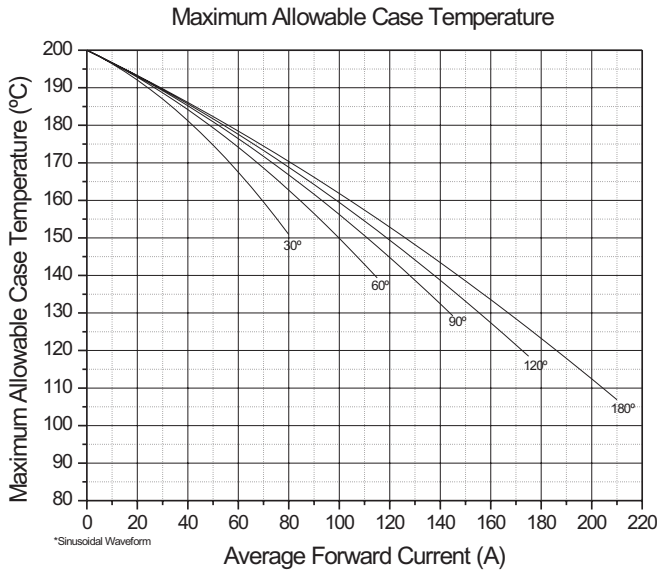


Fig. 1 - Current Ratings Characteristics

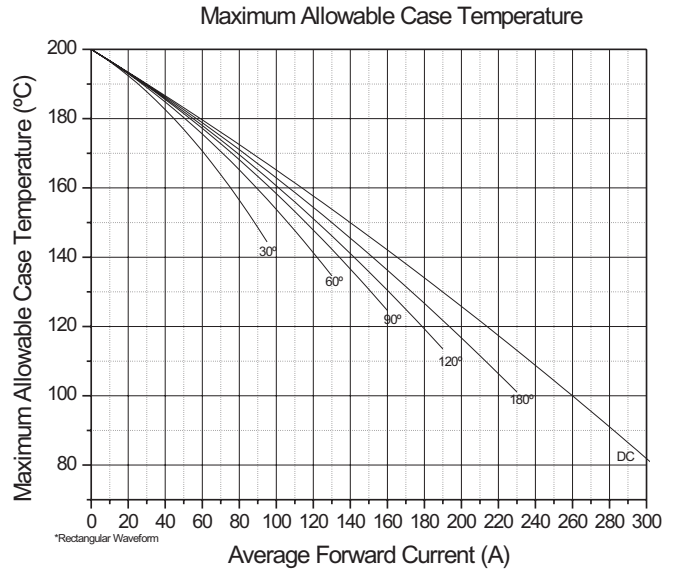


Fig. 2 - Current Ratings Characteristics



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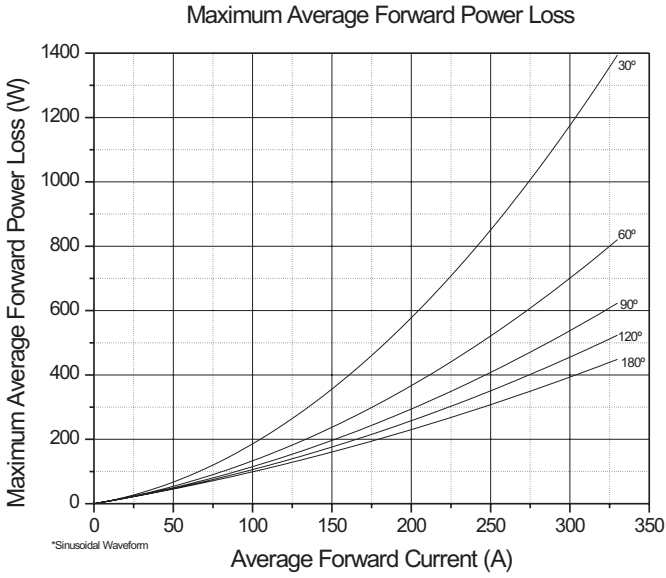


Fig. 3 - Forward Power Loss Characteristics

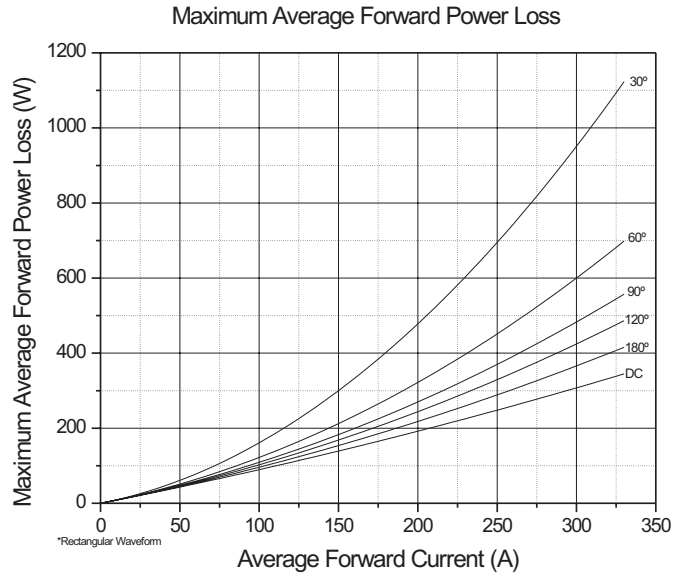


Fig. 4 - Forward Power Loss Characteristics

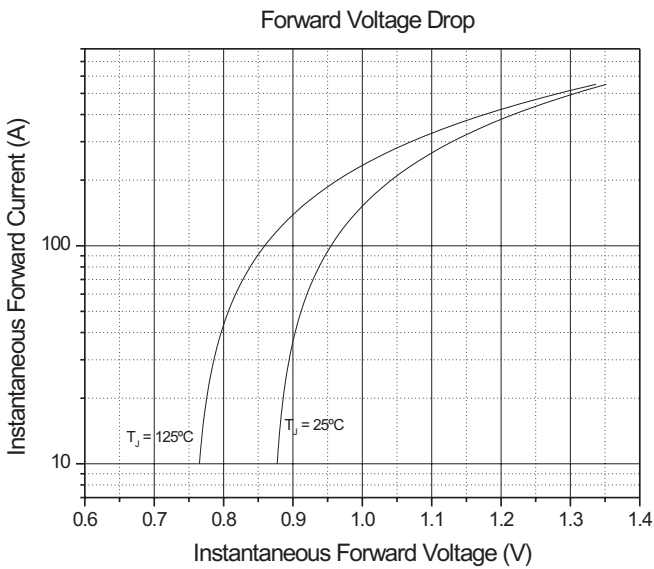


Fig. 5 - Forward Voltage Drop Characteristics

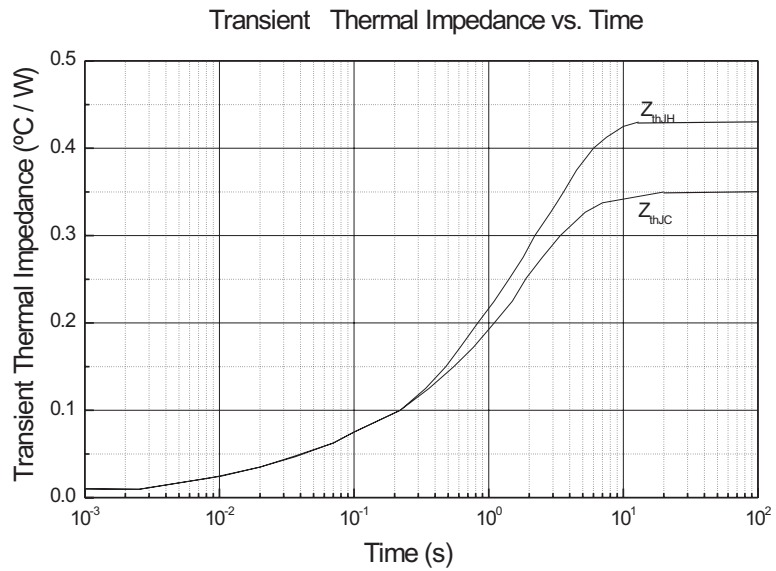


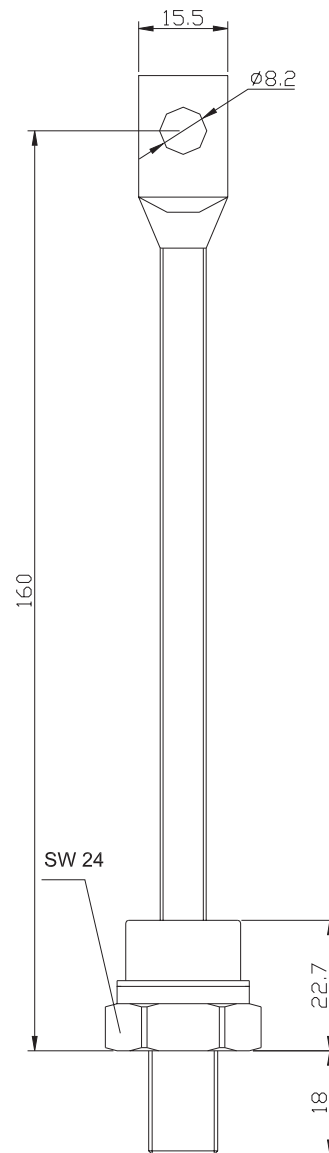
Fig. 6 - Transient Thermal Impedance Characteristics



AEGIS
SEMICONDUCTORES LTDA.

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DO-205AA (DO-8)



M12 x 1.75
1/2" UNF 2A