



A5A:5500.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 180°C	T _J = -40 to 0°C	T _J = 25 to 180°C
A5A:5500.14	1400	1400	1500
A5A:5500.16	1600	1600	1700
A5A:5500.18	1800	1800	1900
A5A:5500.20	2000	2000	2100
A5A:5500.22	2200	2200	2300

MAXIMUM ALLOWABLE RATINGS

PARAMETER	VALUE	UNITS	NOTES
T _J Junction Temperature	-40 to 180	°C	-
T _{stg} Storage Temperature	-40 to 180	°C	-
I _{F(AV)} Max. Av. current @ Max. T _C	5500	A	180° half sine wave
	100	°C	
I _{F(RMS)} Nom. RMS current	8650	A	-
I _{FSM} Max. Peak non-rep. surge current	59.4	kA	50 Hz half cycle sine wave Initial T _J = 180°C, rated V _{RRM} applied after surge.
	63.5		60 Hz half cycle sine wave
	70.6		50 Hz half cycle sine wave Initial T _J = 180°C, no voltage applied after surge.
	75.5		60 Hz half cycle sine wave
I ² t Max. I ² t capability	15413	kA ² s	t = 10ms Initial T _J = 180°C, rated V _{RRM} applied after surge.
	16800		t = 8.3 ms
	21835		t = 10ms Initial T _J = 180°C, no voltage applied after surge.
	23800		t = 8.3 ms
I ² t ^{1/2} Max. I ² t ^{1/2} capability	260000	kA ² s ^{1/2}	Initial T _J = 180°C, no voltage applied after surge. for time t _x = I ² t ^{1/2} * t _x ^{1/2} . (0.1 < t _x < 10ms).
F Mounting Force	4550	N.m	-



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CHARACTERISTICS

PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
V_{FM} peak on-state voltage	---	---	1.71	V	Initial $T_J = 25^\circ\text{C}$, 50-60Hz half sine, $I_{\text{peak}} = 17270\text{A}$.
$V_{F(TO)1}$ Low-level threshold	---	---	0.831	V	$T_J = 180^\circ\text{C}$ Av. power = $V_{T(TO)} * I_{T(AV)} + r_T * [I_{T(RMS)}]^2$, 180 Half Sine.
$V_{F(TO)2}$ High-level threshold	---	---	1.023		
r_{F1} Low-level resistance	---	---	0.057	m Ω	Use low values for $I_{TM} < \pi$ rated $I_{T(AV)}$
r_{F2} High-level resistance	---	---	0.064		
I_{RRM} Peak reverse current	---	200	-	mA	$T_J = 180^\circ\text{C}$, Rated V_{RRM}
R_{thJC} Thermal resistance, junction-to-case	---	---	0.011	$^\circ\text{C/W}$	DC operation, double side cooled.
	---	---	0.012	$^\circ\text{C/W}$	180 $^\circ$ sine wave, double side cooled.
	---	---	0.012	$^\circ\text{C/W}$	120 $^\circ$ rectangular wave, double side cooled.
R_{thCS} Thermal resistance, case-to-sink	---	---	0.006	$^\circ\text{C/W}$	Mtg. Surface smooth, flat and greased. Double side cooled.
wt Weight	---	1590(55.3)	---	g(oz.)	---
Case Style	---	TO-200AE	---	JEDEC	---

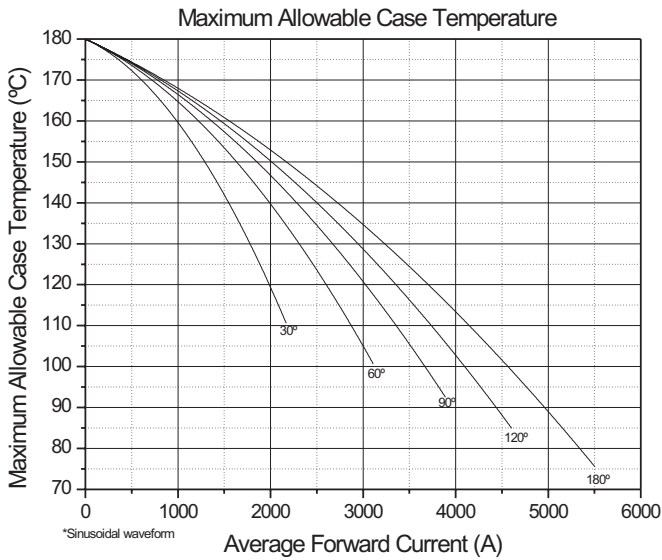


Fig. 1 - Current Ratings Characteristics

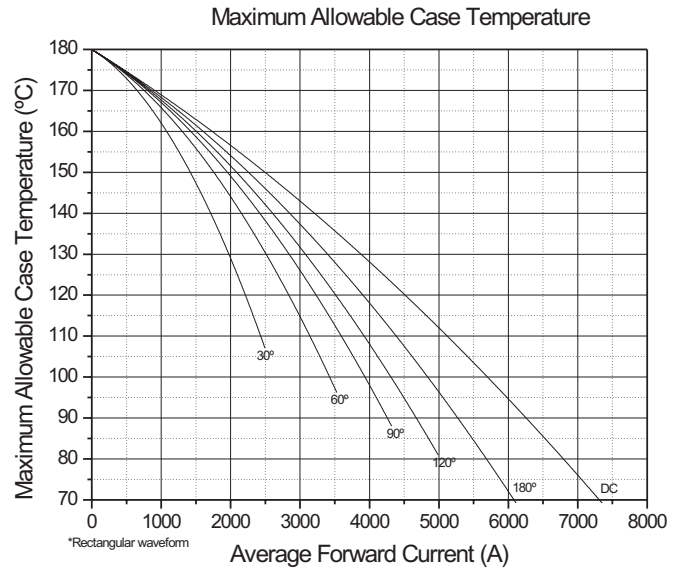


Fig. 2 - Current Ratings Characteristics



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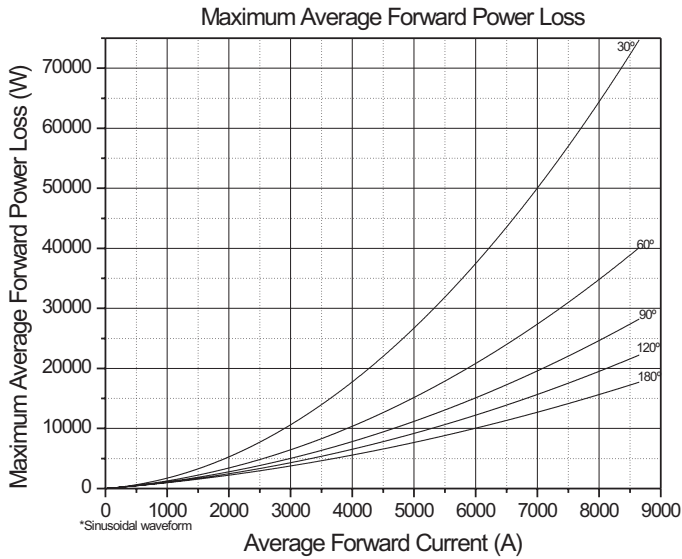


Fig. 3 - Average Forward Power Loss Characteristics

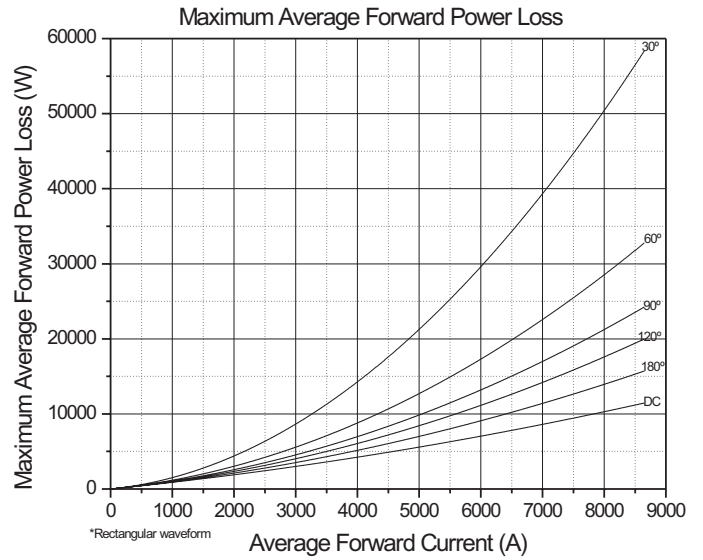


Fig. 4 - Average Forward Power Loss Characteristics

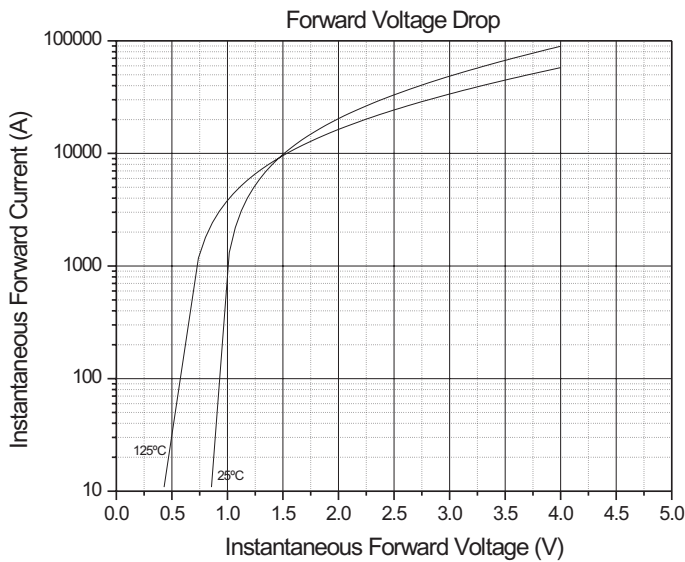


Fig. 5 - Forward Voltage Drop Characteristics

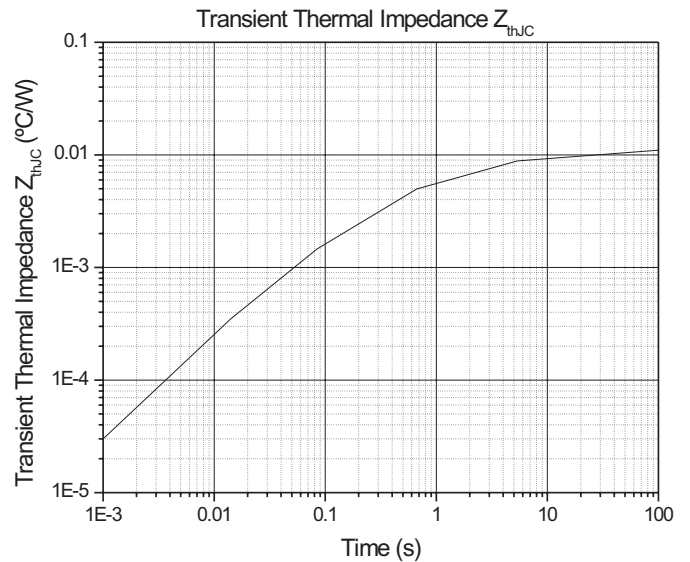


Fig. 6 - Transient Thermal Impedance Z_{thJC} Characteristics



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TO-200AE

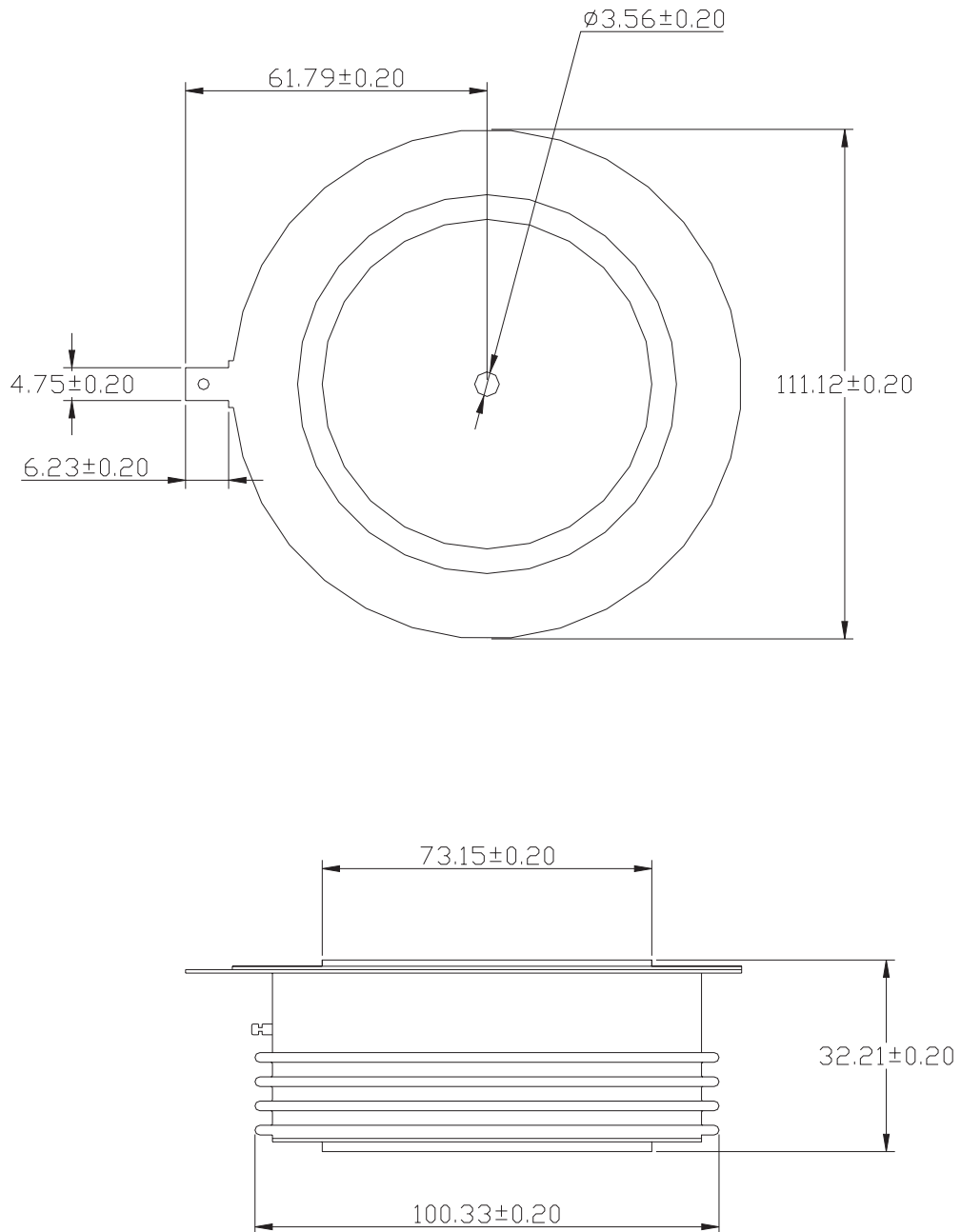


Fig. 7 - Outline Characteristics