



A5A:820.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 175°C	$T_J = -40$ to 0°C	$T_J = 25$ to 175°C
	A5A:820.24	2400	2400
A5A:820.26	2600	2600	2700
A5A:820.28	2800	2800	2900
A5A:820.30	3000	3000	3100
A5A:820.32	3200	3200	3300
A5A:820.34	3400	3400	3500
A5A:820.36	3600	3600	3700
A5A:820.38	3800	3800	3900
A5A:820.40	4000	4000	4100
A5A:820.42	4200	4200	4300

MAXIMUM ALLOWABLE RATINGS

PARAMETER	VALUE	UNITS	NOTES
T_J Junction Temperature	-40 to 175	$^\circ\text{C}$	-
T_{stg} Storage Temperature	-40 to 175	$^\circ\text{C}$	-
$I_{F(AV)}$ Max. Av. current @ Max. T_C	630	A	180° half sine wave
	125	$^\circ\text{C}$	
$I_{F(RMS)}$ Nom. RMS current	1250	A	-
I_{FSM} Max. Peak non-rep. surge current	12.80	kA	50 Hz half cycle sine wave Initial $T_J = 175^\circ\text{C}$, rated V_{RRM} applied after surge.
	13.95		60 Hz half cycle sine wave
	15.23		50 Hz half cycle sine wave Initial $T_J = 175^\circ\text{C}$, no voltage applied after surge.
	16.60		60 Hz half cycle sine wave
I^2t Max. I^2t capability	7510	kA^2s	$t = 10\text{ms}$ Initial $T_J = 175^\circ\text{C}$, rated V_{RRM} applied after surge.
	8190		$t = 8.3\text{ms}$
	10550		$t = 10\text{ms}$ Initial $T_J = 175^\circ\text{C}$, no voltage applied after surge.
	11500		$t = 8.3\text{ms}$
$I^2t^{1/2}$ Max. $I^2t^{1/2}$ capability	12600	$\text{kA}^2\text{s}^{1/2}$	Initial $T_J = 175^\circ\text{C}$, no voltage applied after surge. \hat{t} for time $t_x = I^2t^{1/2} * t_x^{1/2}$. ($0.1 < t_x < 10\text{ms}$).
F Mounting Force	1250	N.m	-



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CHARACTERISTICS

PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
V _{FM} Peak forward voltage	---	1.60	1.89	V	Initial T _J = 25°C, 50-60Hz half sine, I _{peak} = 1979A.
V _{F(TO)1} Low-level threshold	---	---	0.824	V	T _J = 175°C
V _{F(TO)2} High-level threshold	---	---	0.871	V	Av. power = V _{F(TO)} * I _{F(AV)} + r _F * [I _{F(RMS)}] ²
r _{F1} Low-level resistance	---	---	0.459	m	Use low values for I _{FM} < I _{F(AV)}
r _{F2} High-level resistance	---	---	0.279	m	
I _{RM} Peak reverse current	---	15	75	mA	T _J = 175°C. Max. rated V _{RRM}
R _{thJC} Thermal resistance, junction-to-case	---	---	0.050	°C/W	DC operation, double side
	---	---	0.054	°C/W	180° sine wave, double side
	---	---	0.055	°C/W	120° rectangular wave, duble side
R _{thCS} Thermal resistance, case-to-sink	---	---	0.015	°C/W	Mtg. Surface smooth, flat and greased.
wt Weight	---	85(3.0)	---	g(oz.)	---
Case Style	TO-200AC				---

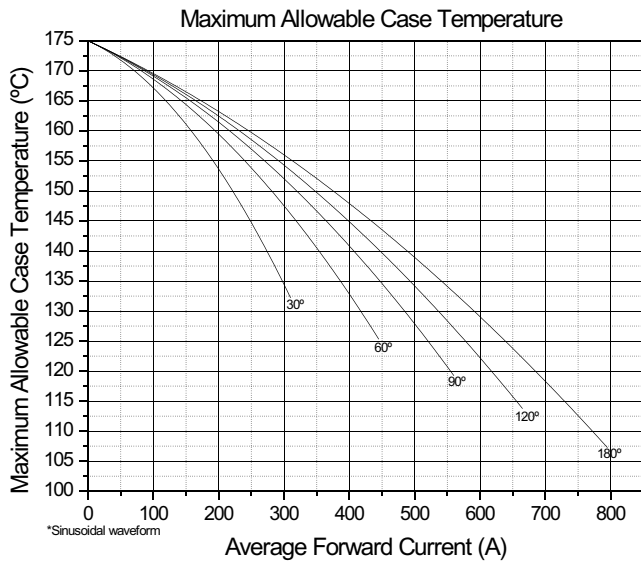


Fig. 1 - Current Ratings Characteristics

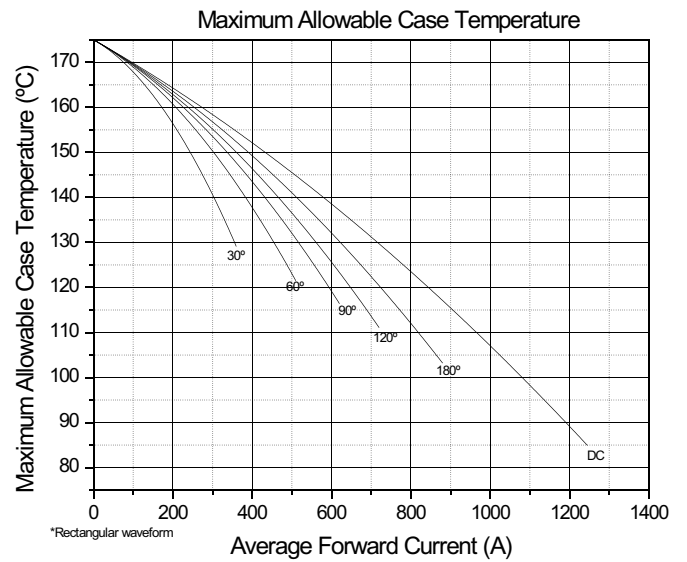


Fig. 2 - Current Ratings Characteristics



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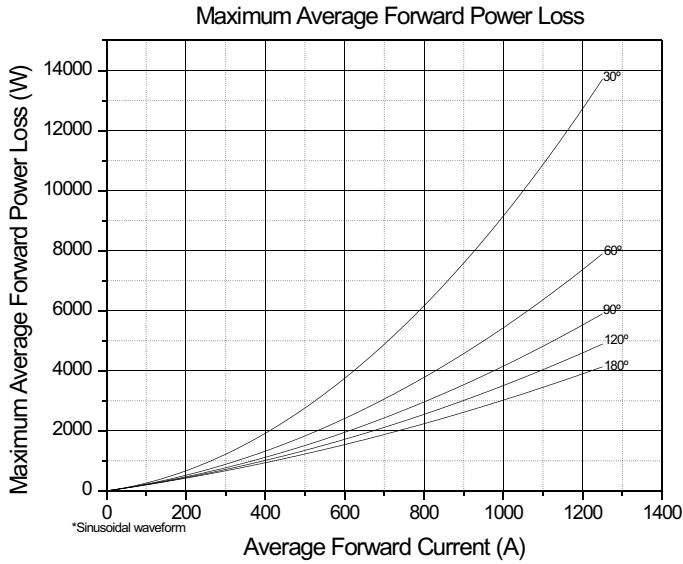


Fig. 3 - On-State Power Loss Characteristics

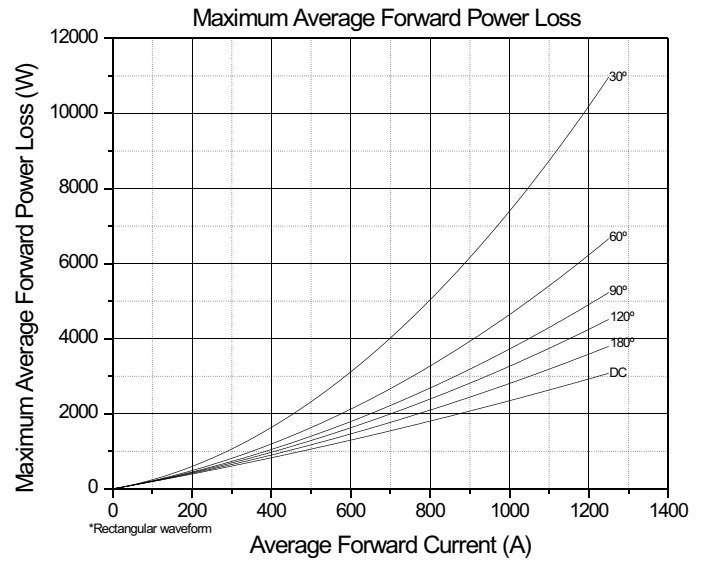


Fig. 4 - On-State Power Loss Characteristics

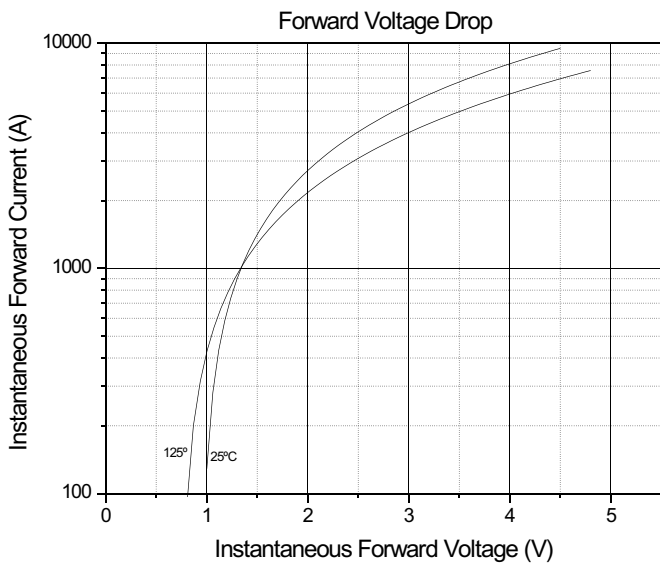


Fig. 5 - Forward Voltage Drop Characteristics

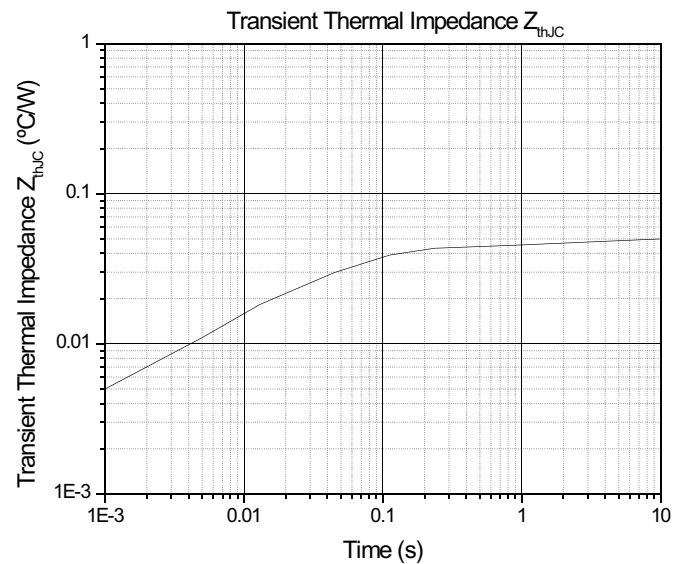


Fig. 6 - Transient Thermal Impedance Characteristics



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TO-200AC

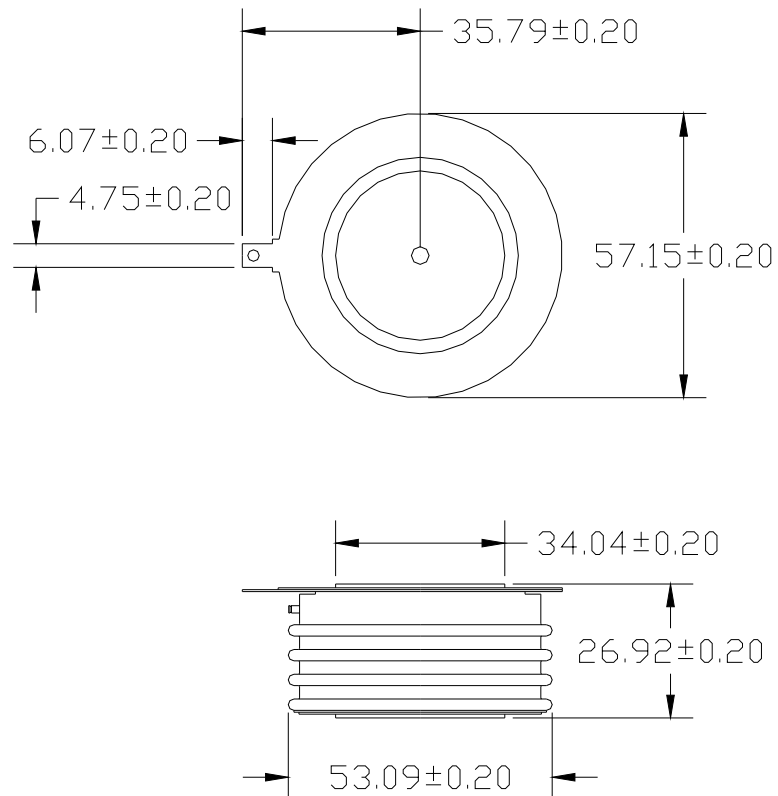


Fig. 7 - Outline Characteristics