



A3L:90DD.XX

VOLTAGE RATINGS

Part Number	V_{RRM}, V_R (V)		V_{RSM}, V_R (V) Max. non-rep. peak reverse voltage
	Max. rep. peak reverse voltage		
	$T_J = 0$ to 150°C	$T_J = -40$ to 0°C	$T_J = 25$ to 150°C
A3L:90DD.02	200	200	300
A3L:90DD.04	400	400	500
A3L:90DD.06	600	600	700
A3L:90DD.08	800	800	900
A3L:90DD.10	1000	1000	1100
A3L:90DD.12	1200	1200	1300
A3L:90DD.14	1400	1400	1500
A3L:90DD.16	1600	1520	1700

MAXIMUM ALLOWABLE RATINGS

PARAMETER	VALUE	UNITS	NOTES
T_J Junction Temperature	-40 to 150	$^\circ\text{C}$	-
T_{stg} Storage Temperature	-40 to 150	$^\circ\text{C}$	-
$I_{F(AV)}$ Max. Av. current @ Max. T_C	90	A	18 \emptyset half sine wave
	85	$^\circ\text{C}$	
$I_{F(RMS)}$ Nom. RMS current	141	A	-
I_{FSM} Max. Peak non-rep. surge current	2020	A	50 Hz half cycle sine wave Initial $T_J = 150^\circ\text{C}$, rated V_{RRM} applied after surge.
	2110		60 Hz half cycle sine wave
	1700		50 Hz half cycle sine wave Initial $T_J = 150^\circ\text{C}$, no voltage applied after surge.
	1780		60 Hz half cycle sine wave
I^2t Max. I^2t capability	20.43	kA^2s	$t = 10\text{ms}$ Initial $T_J = 150^\circ\text{C}$, rated V_{RRM} applied after surge.
	18.65		$t = 8.3\text{ms}$
	14.45		$t = 10\text{ms}$ Initial $T_J = 150^\circ\text{C}$, no voltage applied after surge.
	13.19		$t = 8.3\text{ms}$
$I^2t^{1/2}$ Max. $I^2t^{1/2}$ capability	204.3	$\text{kA}^2\text{s}^{1/2}$	Initial $T_J = 150^\circ\text{C}$, 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	5	N.m	-



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CHARACTERISTICS

PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
V_{FM} Peak forward voltage	---	---	1.45	V	$I_{FM} = p \times I_{F(AV)}$, $T_J = 25^\circ\text{C}$, $t_p = 400\mu\text{s}$ square wave.
$V_{F(TO)1}$ Low-level threshold	---	---	0.79	V	$T_J = 150^\circ\text{C}$
$V_{F(TO)2}$ High-level threshold	---	---	0.87		Av. power = $V_{F(TO)} * I_{F(AV)} + r_F * [I_{F(RMS)}]^2$
r_{F1} Low-level resistance	---	---	1.78	m Ω	Use low values for $I_{FM} < \pi I_{F(AV)}$
r_{F2} High-level resistance	---	---	1.57		
I_{RM} Peak reverse current	---	---	10	mA	$T_J = 150^\circ\text{C}$. Max. rated V_{RRM}
R_{thJC} Thermal resistance, junction-to-case	---	---	0.35	$^\circ\text{C/W}$	Per junction, DC operation.
	---	---	0.052	$^\circ\text{C/W}$	180° sine wave, double side
	---	---	0.069	$^\circ\text{C/W}$	120° rectangular wave
R_{thCS} Thermal resistance, case-to-sink	---	---	0.1	$^\circ\text{C/W}$	Mtg. Surface smooth, flat and greased.
wt Weight	---	110(4)	---	g(oz.)	---
Case Style	TO-240AA				---

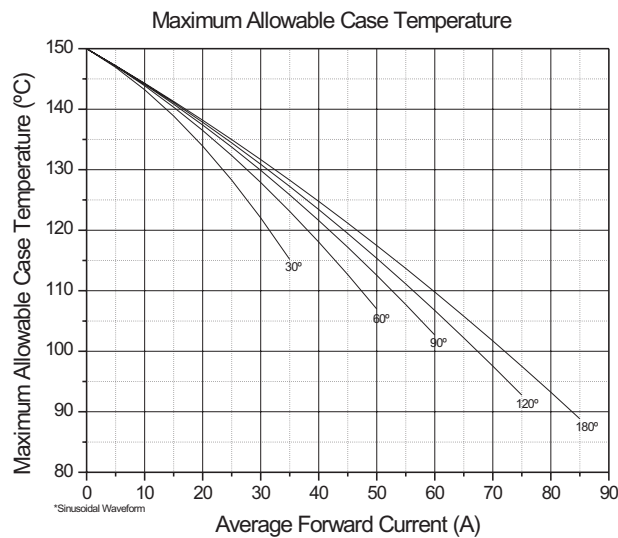


Fig. 1 - Current Ratings Characteristics

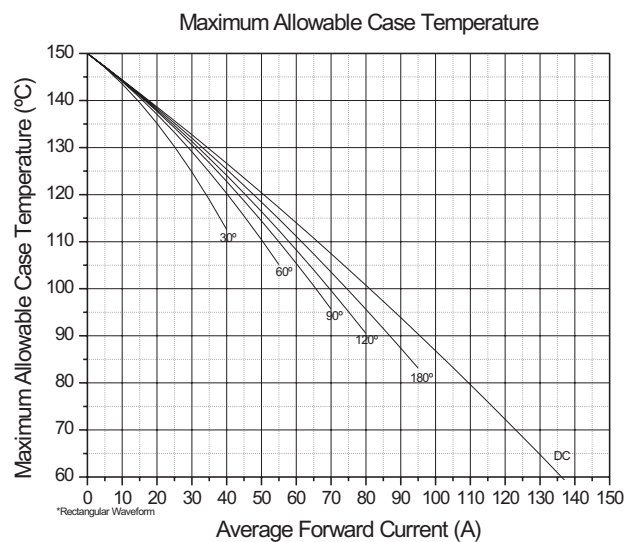


Fig. 2 - Current Ratings Characteristics



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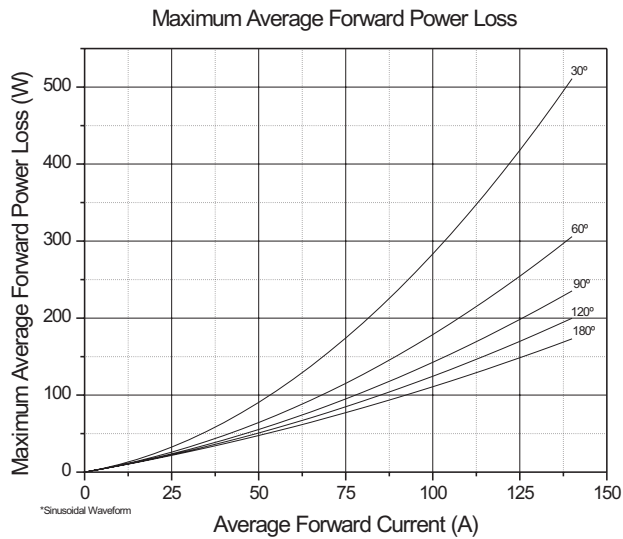


Fig.3 -Forward Power Loss Characteristics

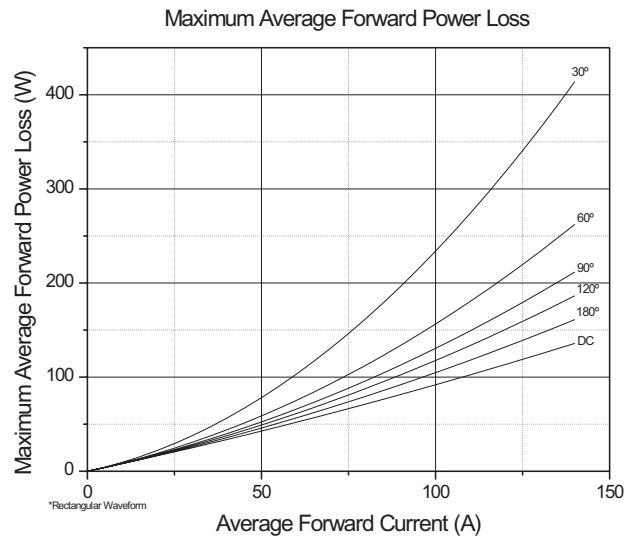


Fig. 4 - Forward Power Loss Characteristics

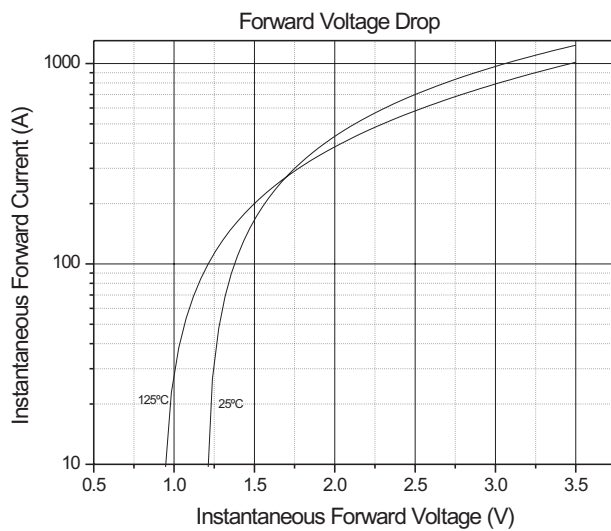


Fig. 5 - Forward Voltage Drop Characteristics

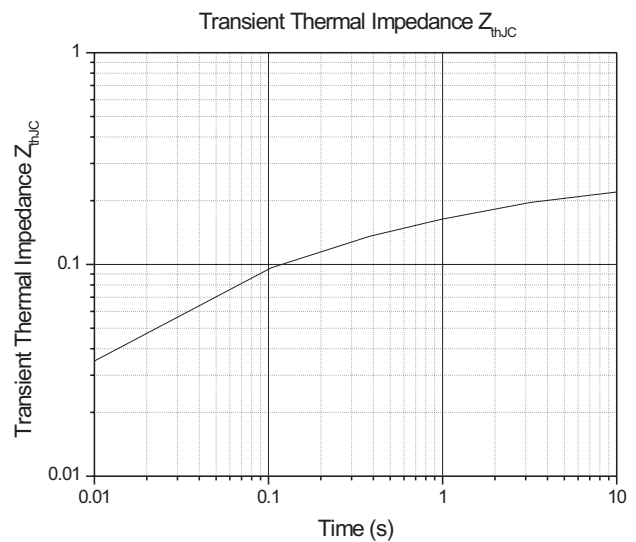


Fig. 6 - Transient Thermal Impedance



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TO-240AA

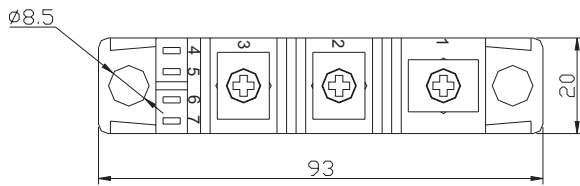
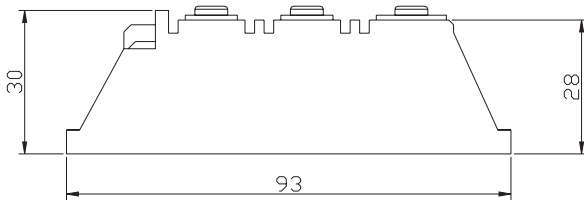


Fig. 7 - Outline Characteristics

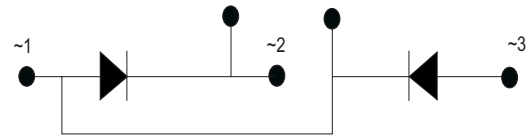


Fig. 8 - Circuit Layout