



A3L:70DD.XX

VOLTAGE RATINGS

Part Number	V_{RRM}, V_R (V)		V_{RSM}, V_R (V) Max. non-rep.
	Max. rep. peak reverse voltage		peak reverse voltage
	$T_J = 0$ to 150°C	$T_J = -40$ to 0°C	$T_J = 25$ to 150°C
A3L:70DD.02	200	200	300
A3L:70DD.04	400	400	500
A3L:70DD.06	600	600	700
A3L:70DD.08	800	800	900
A3L:70DD.10	1000	1000	1100
A3L:70DD.12	1200	1200	1300
A3L:70DD.14	1400	1400	1500
A3L:70DD.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	70	A	180° half sine wave
	@ Max. T_C	85	
$I_{F(RMS)}$ Nom. RMS current	110	A	-
I_{FSM} Max. Peak non-rep. surge current	1.5	kA	50 Hz half cycle sine wave
	1.64		60 Hz half cycle sine wave
	1.72		50 Hz half cycle sine wave
	1.87		60 Hz half cycle sine wave
I^2t Max. I^2t capability	11.69	kA^2s	$t = 10\text{ms}$
	12.74		$t = 8.3\text{ms}$
	13.32		$t = 10\text{ms}$
	14.52		$t = 8.3\text{ms}$
$I^2t^{1/2}$ Max. $I^2t^{1/2}$ capability	159.1	$\text{kA}^2\text{s}^{1/2}$	Initial $T_J = 150^\circ\text{C}$, rated V_{RRM} applied after surge.
			Initial $T_J = 150^\circ\text{C}$, no voltage applied after surge.
F Mounting Force	5	N.m	-



A3L:70DD.XX

CHARACTERISTICS

PARAMETER	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
V_{FM} Peak forward voltage	---	---	1.37	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	---	---	1.65	m Ω	Use low values for $I_{FM} < \pi I_{F(AV)}$
r_{F2} High-level resistance	---	---	1.34		
I_{RM} Peak reverse current	---	---	10	mA	$T_J = 150^\circ\text{C}$. Max. rated V_{RRM}
R_{thJC} Thermal resistance, junction-to-case	---	---	0.285	$^\circ\text{C}/\text{W}$	Per junction, DC operation.
	---	---	0.332	$^\circ\text{C}/\text{W}$	180° sine wave, double side
	---	---	0.356	$^\circ\text{C}/\text{W}$	120° rectangular wave
R_{thCS} Thermal resistance, case-to-sink	---	---	0.1	$^\circ\text{C}/\text{W}$	Mtg. Surface smooth, flat and greased.
wt Weight	---	110(4)	---	g(oz.)	---
Case Style	TO-240AA				---

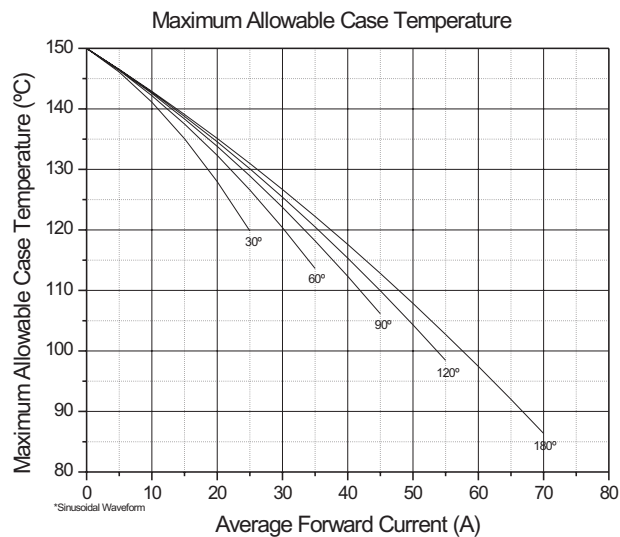


Fig. 1 - Current Ratings Characteristics

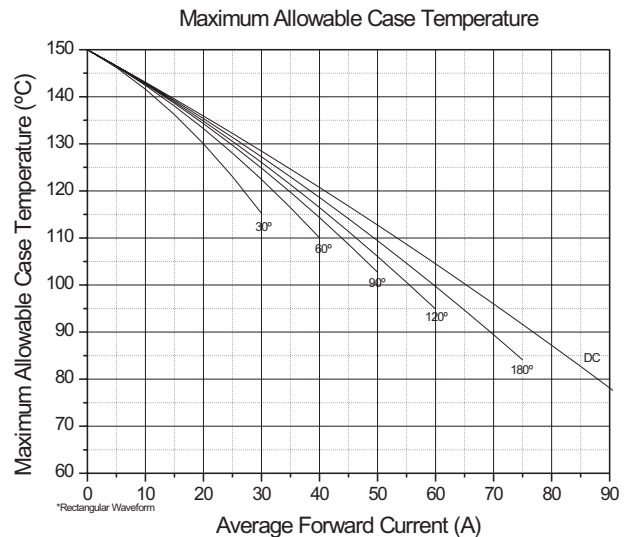


Fig. 2 - Current Ratings Characteristics



A3L:70DD.XX

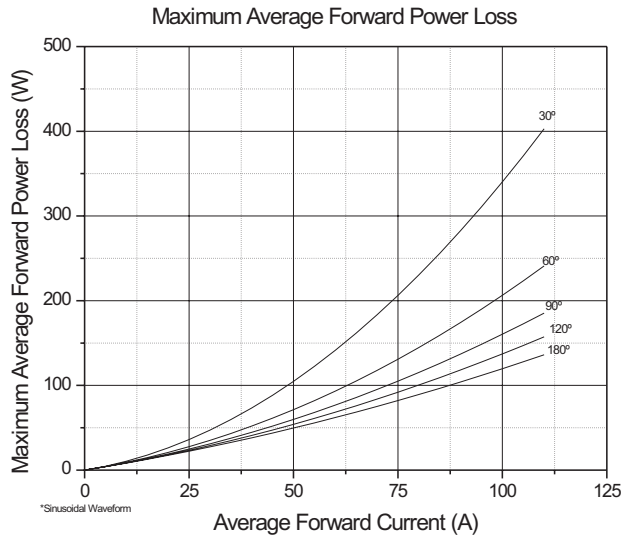


Fig.3 -Forward Power Loss Characteristics

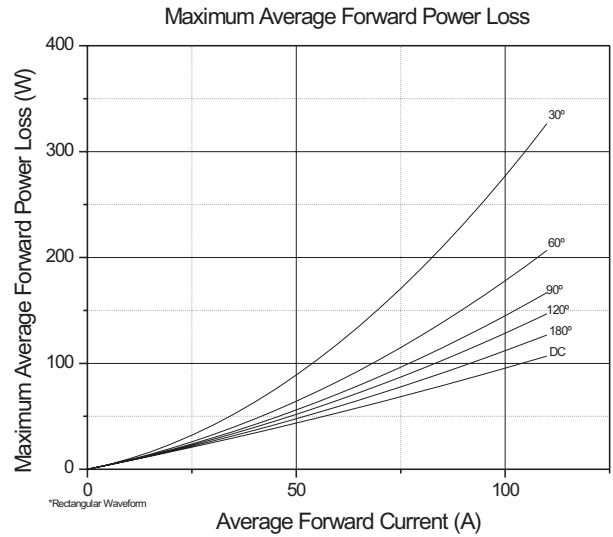


Fig. 4 - Forward Power Loss Characteristics

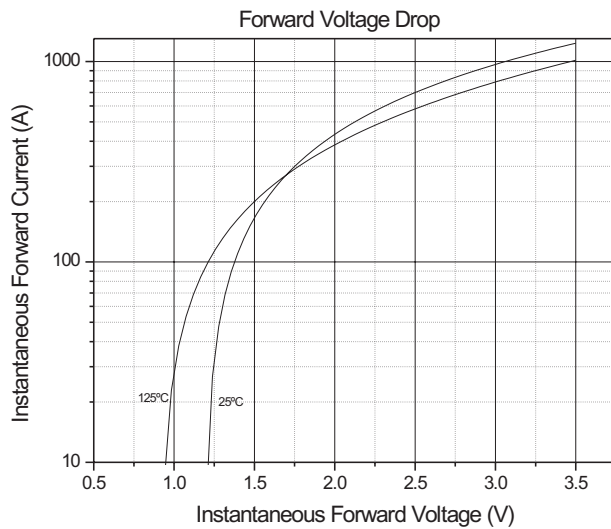


Fig. 5 - Forward Voltage Drop Characteristics

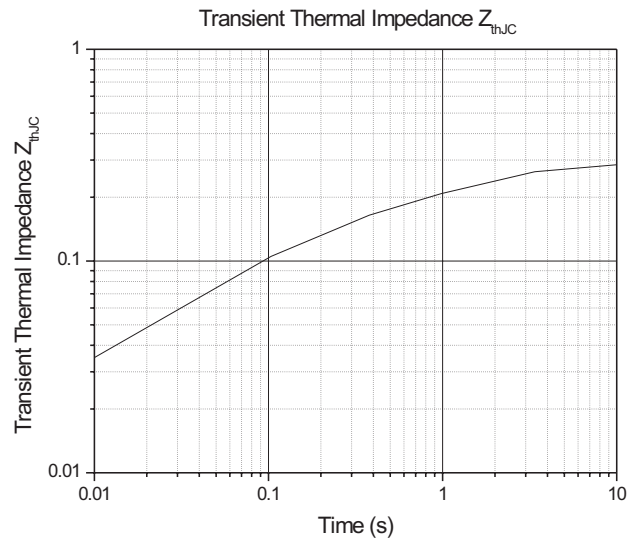


Fig. 6 - Transient Thermal Impedance



A3L:70DD.XX

TO-240AA

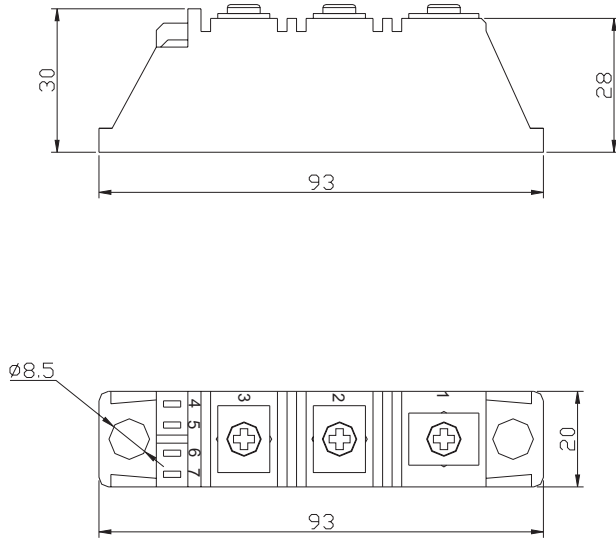


Fig. 7 - Outline Characteristics

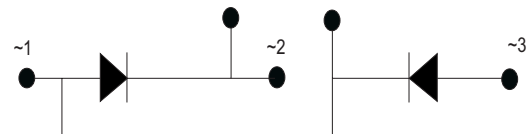


Fig. 8 - Circuit Layout