

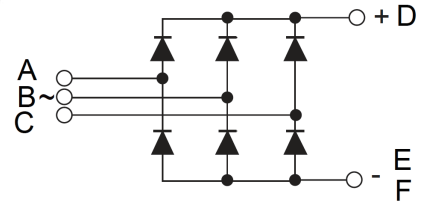
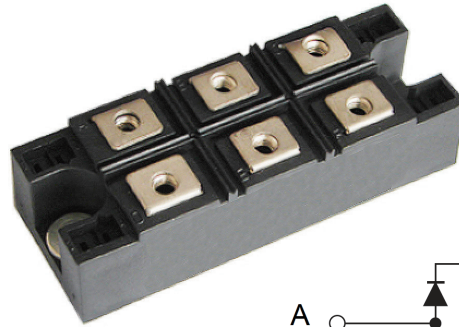
90MT80K thru 90MT180K

Feature

- Package with screw terminals
- Isolation voltage 4000V~
- Blocking voltage up to 1800V
- Low forward voltage drop

Application

- Supplies for DC power equipment
- Input rectifier for PWM inverter
- Battery DC power supplies
- Field supply for DC motors



Maximum value

Symbol	Parameter	Rating					Unit
		90MT80	90MT120	90MT140	90MT160	90MT180	
VRRM	Reverse peak repetitive voltage	800	1200	1400	1600	1800	V
VRSM	Reverse peak non-repetitive voltage	900	1300	1500	1700	1900	V

Symbol	Test Conditions	Maximum Ratings	Unit	
I_{dav}	$T_C=100^{\circ}C$, module	90	A	
I_{dav}	$T_A=45^{\circ}C$ ($R_{thCA}=0.6K/W$), module	120		
I_{FSM}	$T_{VJ}=45^{\circ}C$ $V_R=0$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	770 810	A
	$T_{VJ}=T_{VJM}$ $V_R=0$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	690 730	
P_{RSM}	Per diode chip, $T_{VJ}=25^{\circ}C$, $t_p=10s$	3.40	KW	
I^2t	$T_{VJ}=45^{\circ}C$ $V_R=0$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	3000 2770	A^2s
	$T_{VJ}=T_{VJM}$ $V_R=0$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	2700 2490	
T_{VJ} T_{VJM} T_{stg}		-40...+150 150 -40...+150	$^{\circ}C$	
V_{ISOL}	50/60Hz, RMS $I_{ISOL} \leq 1mA$	t=1min t=1s	2500 4000	V~
M_d	Mounting torque (M5) Terminal connection torque (M5)		$5 \pm 15\%$ $5 \pm 15\%$	Nm
Weight	typ.		176	g

90MT80K thru 90MT180K

Symbol	Test Conditions	Characteristic Values	Unit
I_R	$V_R=V_{RRM}; T_{VJ}=25^{\circ}\text{C}$ $V_R=V_{RRM}; T_{VJ}=T_{VJM}$	≤ 0.3 ≤ 5	mA
V_F	$I_F=90\text{A}; T_{VJ}=25^{\circ}\text{C}$	≤ 1.50	V
V_{Fo}	For power-loss calculations only	0.89	V
r_F	$T_{VJ}=T_{VJM}$	5.1	$\text{m}\Omega$
R_{thJC}	per diode per module	1.25 0.20	K/W
R_{thJK}	per diode per module	1.04 0.17	K/W
d_s	Creeping distance on surface	10	mm
d_A	Creepage distance in air	9.4	mm
a	Max. allowable acceleration	50	m/s^2

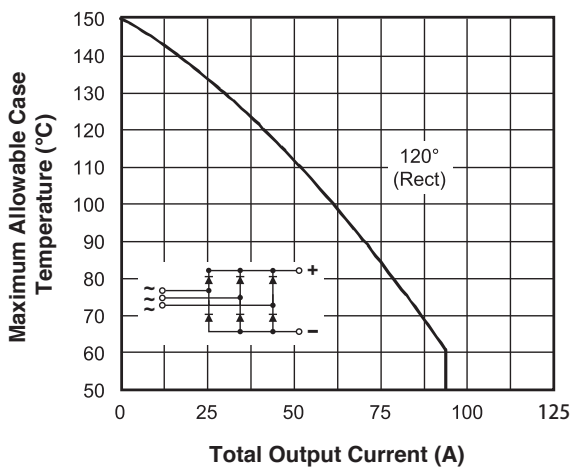


Fig. 1 - Current Ratings Characteristics

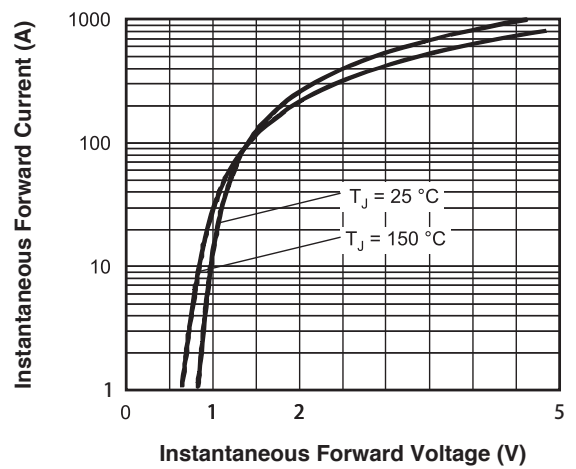


Fig. 2 - Forward Voltage Drop Characteristics

90MT80K thru 90MT180K

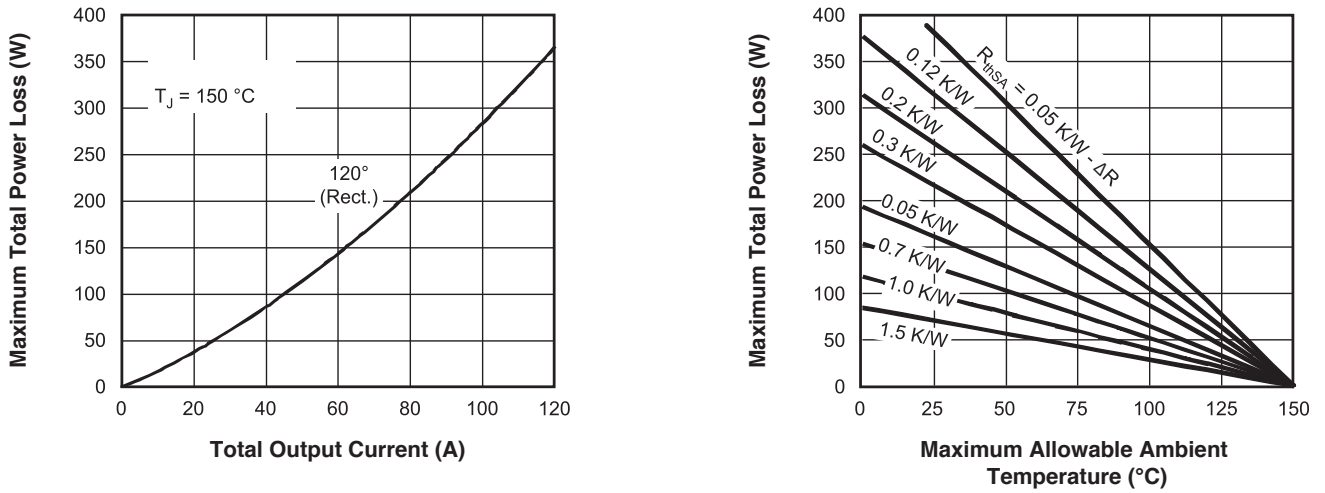


Fig. 3 - Total Power Loss Characteristics

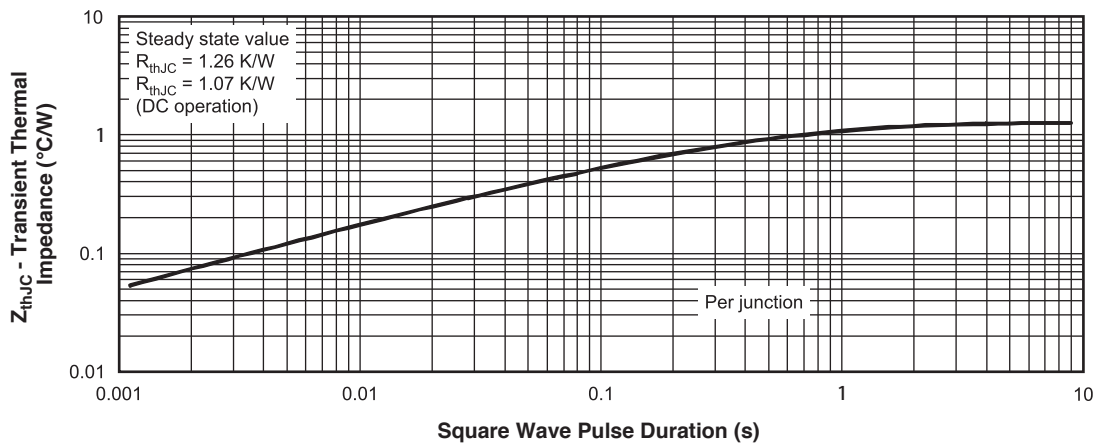


Fig. 4 - Thermal Impedance Z_{thJC} Characteristic

Dimensions in mm (1mm=0.0394")

Screws M5 x 0.8 length 10

