

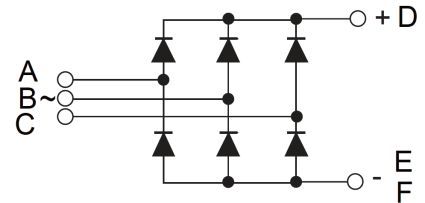
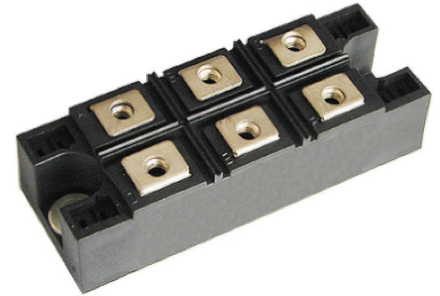
Feature

- 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
		90MT80K	90MT120K	90MT140K	90MT160K	90MT180K	
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	Characteristic Values	Unit
I_R	$V_R = V_{RRM}; T_{VJ} = 25^{\circ}\text{C}$	≤ 0.3	mA
	$V_R = V_{RRM}; T_{VJ} = T_{VJM}$	≤ 5	
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	mΩ
R_{thJC}	per diode	1.25	K/W
	per module	0.20	
R_{thJK}	per diode	1.04	K/W
	per module	0.17	
ds	Creeping distance on surface	10	mm
dA	Creepage distance in air	9.4	mm
a	Max. allowable acceleration	50	m/s ²

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

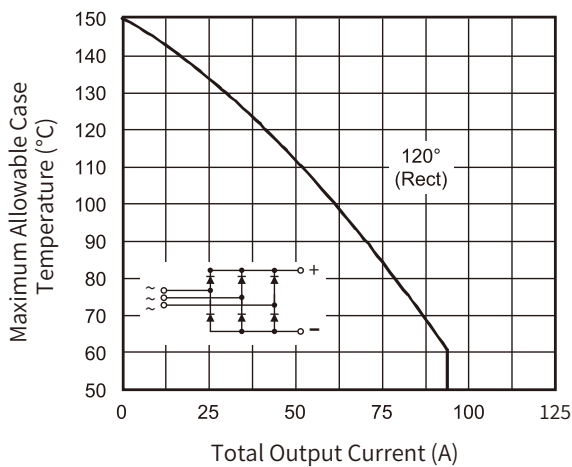


Fig. 1 - Current Ratings Characteristics

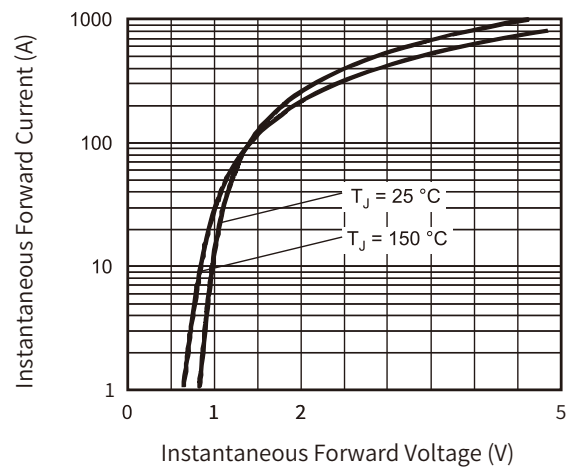


Fig. 2 - Forward Voltage Drop Characteristics

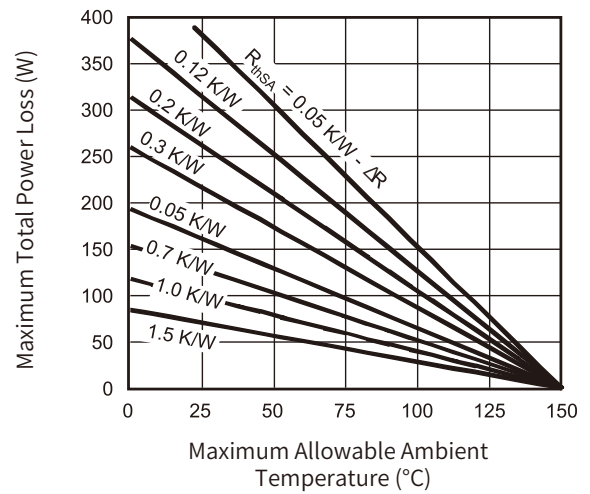
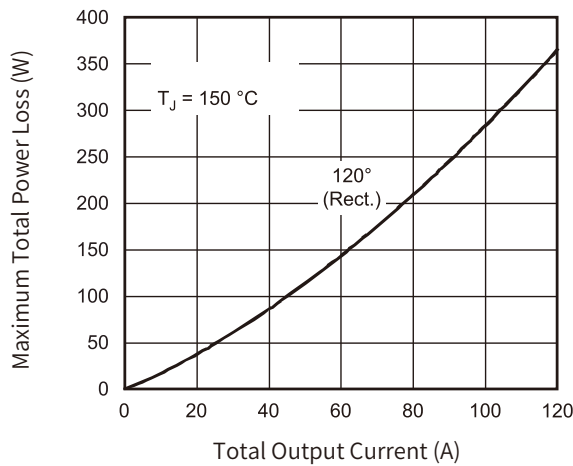


Fig. 3 - Total Power Loss Characteristics

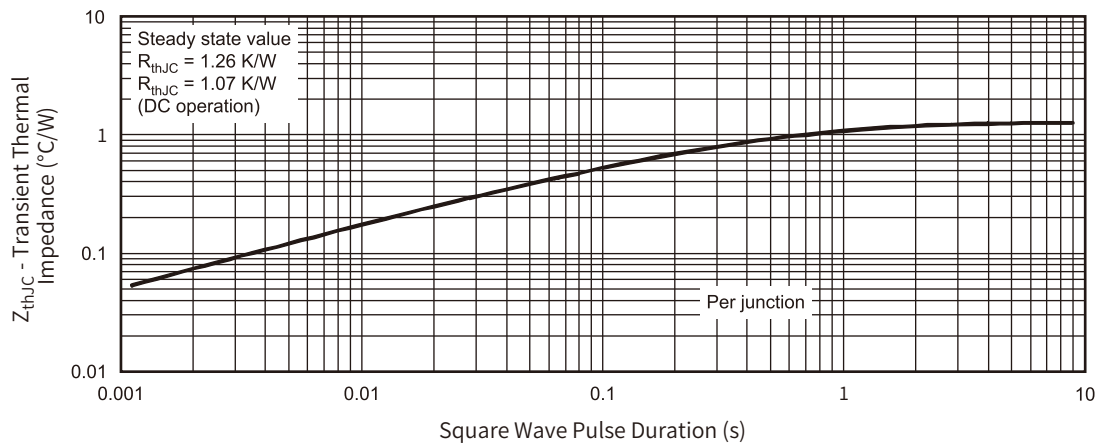


Fig. 4 - Thermal Impedance Z_{thJC} Characteristic

Dimensions in mm (1mm=0.0394")

