

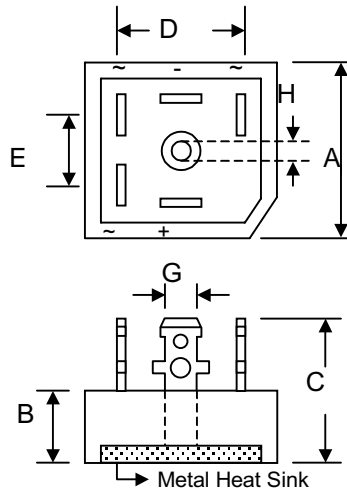
**SENSITRON**  
**SEMICONDUCTOR**

**MT25, 35 SERIES**  
**25, 35A THREE PHASE BRIDGE RECTIFIER**

Data Sheet 1353, Rev. -

**Features**

- Glass Passivated Die Construction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability
- Ideal for Printed Circuit Boards



MT				
Dim	Min	Max	Min	Max
A	28.40	28.70	1.118	1.130
B	10.97	11.23	0.432	0.442
C	22.86	23.86	0.9	0.939
D	—	25.30	—	0.996
E	16.00 Typical		0.630 Typical	
G	6.35 X 0.80		0.25 X 0.031	
H	5.10Ø	5.30Ø	0.201Ø	0.209Ø
	In mm		In inch	

**Mechanical Data**

- Case: Epoxy Case with Heat Sink Internally Mounted in the Bridge Encapsulation
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Weight: 20 grams (approx.)
- Mounting Position: Bolt Down on Heatsink With Silicone Thermal Compound Between Bridge and Mounting Surface for Maximum Heat Transfer Efficiency
- Mounting Torque: 20 in. lbs Max.
- Marking: Type Number

**Maximum Ratings and Electrical Characteristics @ $T_A=25^{\circ}C$  unless otherwise specified**

Single Phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

**Voltage Ratings**

Characteristics	Symbol	-00	-01	-02	-04	-06	-08	-10	-12	-14	-16	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	50	100	200	400	600	800	1000	1200	1400	1600	V
Peak Non-Repetitive Reverse Voltage	$V_{RSM}$	75	150	275	500	725	900	1100	1300	1500	1700	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	840	980	1120	V

**Forward Conduction**

Characteristic	Symbol	MT25	MT35	Unit
Average Rectified Output Current MT25 @ $T_C = 70^{\circ}C$ , MT35 @ $T_C = 60^{\circ}C$	$I_O$	25	35	A
Non-Repetitive Peak Forward Surge Current (No Voltage Reapplied $t = 8.3ms$ at 60Hz) (No Voltage Reapplied $t = 10ms$ at 50Hz) (100% $V_{RRM}$ Reapplied $t = 8.3ms$ at 60Hz) (100% $V_{RRM}$ Reapplied $t = 8.3ms$ at 50Hz)	$I_{FSM}$	375 360 314 300	500 475 420 400	A

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$I^2t$ Rating for Fusing (No-Voltage Reapplied $t = 8.3\text{ms}$ at 60Hz) (No-Voltage Reapplied $t = 10\text{ms}$ at 50Hz) (100% $V_{RRM}$ Reapplied $t = 8.3\text{ms}$ at 60Hz) (100% $V_{RRM}$ Reapplied $t = 10\text{ms}$ at 50Hz)	$I^2t$	580 635 410 450	1030 1130 730 800	$A^2s$
Forward Voltage (per element) @ $T_j = 25^\circ\text{C}$ , @ $I_{FM} = 40A_{pk}$ per single junction	$V_F$	1.26	1.19	V
Peak Reverse Current (per leg) @ $T_j = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_j = 125^\circ\text{C}$	$I_R$		10 5.0	$\mu A$ mA
RMS Isolation Voltage from Case to Lead	Viso		2500	V

**Thermal Characteristics**

Operating Temperature Range	$T_j$	-40 to +150		$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-40 to +150		$^\circ\text{C}$
Thermal Resistance Junction to Case at DC Operation per Bridge	$R_{\theta JC}$	1.42	1.16	K/W
Thermal Resistance Case to Heatsink Mounting Surface, Smooth, Flat and Greased	$R_{\theta CS}$	0.2		K/W

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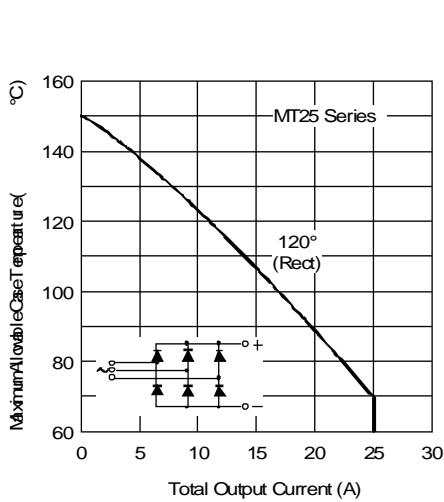


Fig. 1 - Current Ratings Characteristics

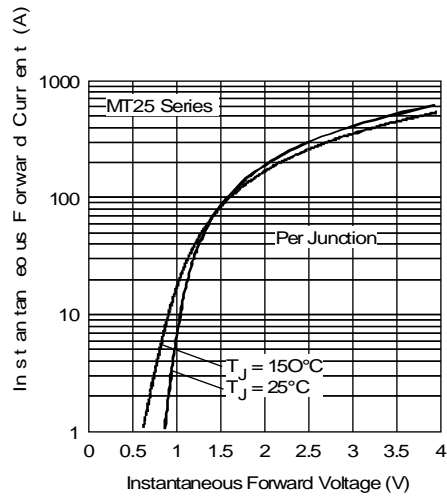


Fig. 2 - Forward Voltage Drop Characteristics

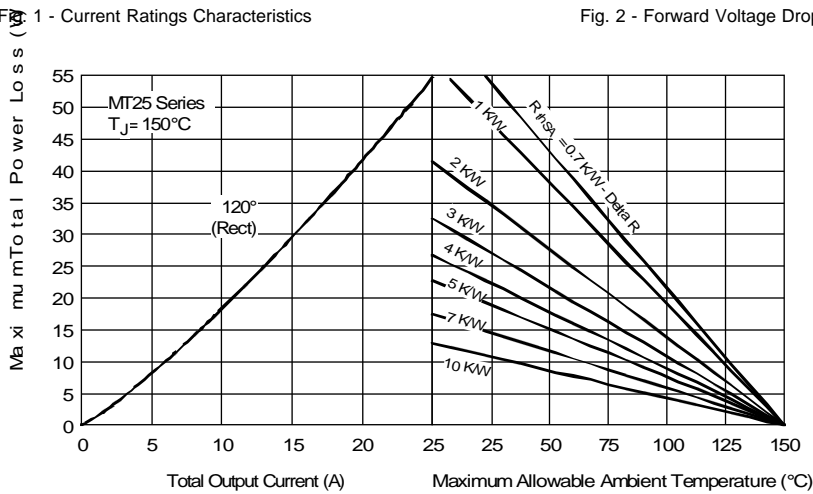


Fig. 3 - Total Power Loss Characteristics

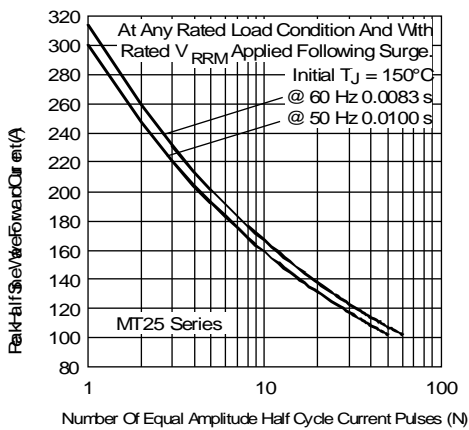


Fig. 4 - Maximum Non-Repetitive Surge Current

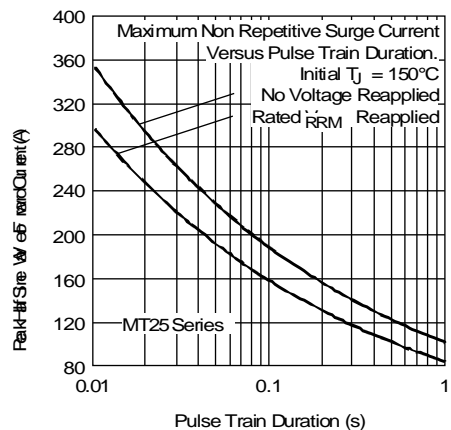


Fig. 5 - Maximum Non-Repetitive Surge Current

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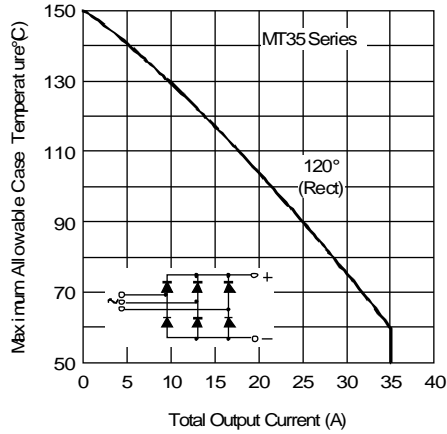


Fig. 6 - Current Ratings Characteristics

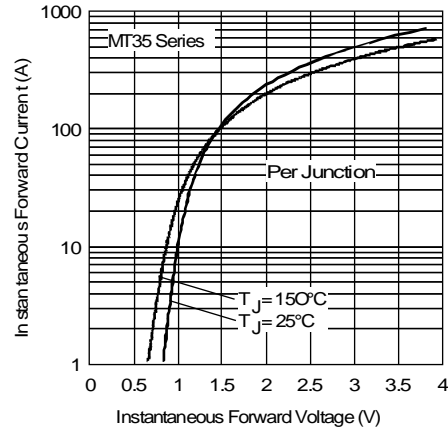


Fig. 7 - Forward Voltage Drop Characteristics

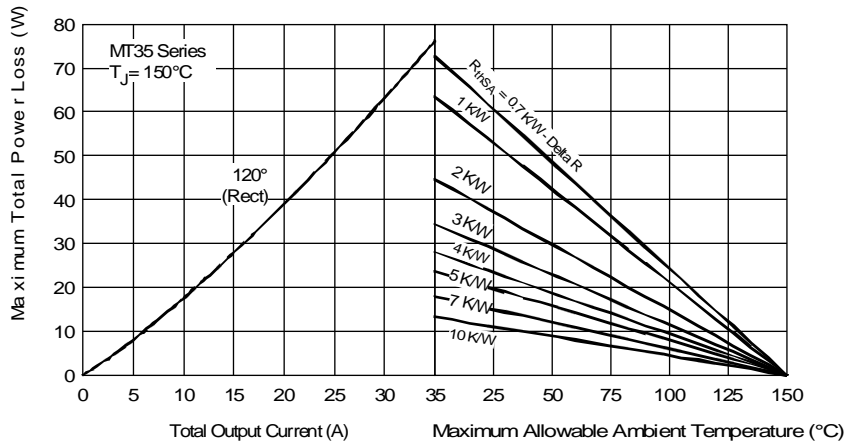


Fig. 8 - Total Power Loss Characteristics

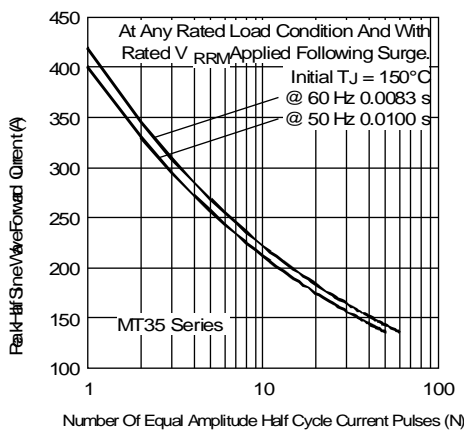


Fig. 9 - Maximum Non-Repetitive Surge Current

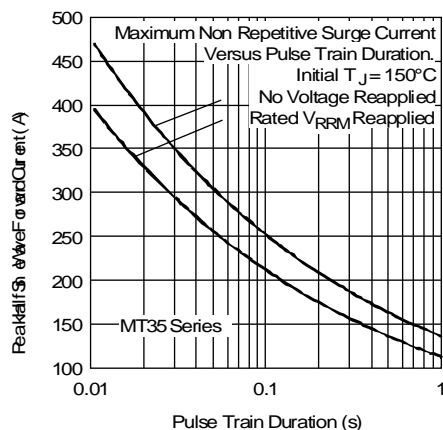


Fig. 10 - Maximum Non-Repetitive Surge Current

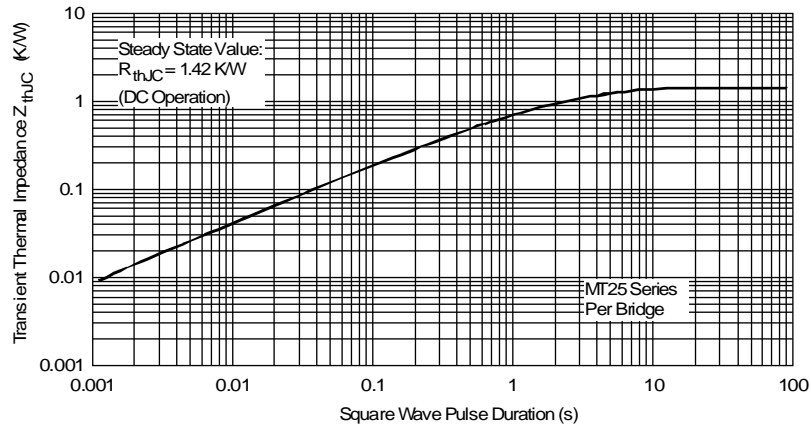


Fig. 11 - Thermal Impedance  $Z_{thJC}$  Characteristics

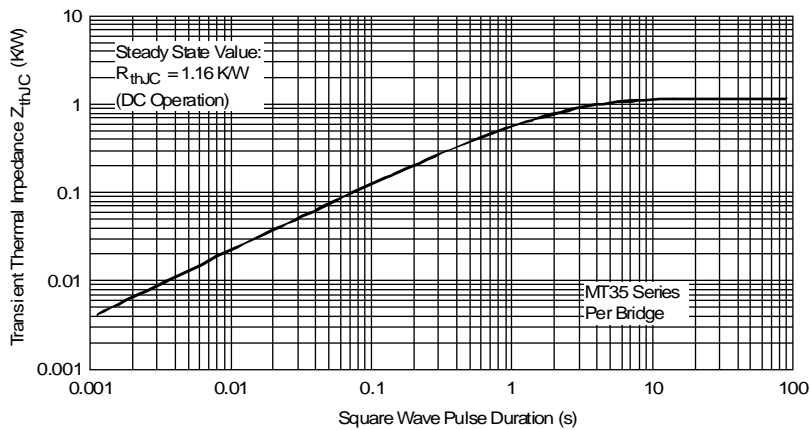


Fig. 12 - Thermal Impedance  $Z_{thJC}$  Characteristics