

Features

- Glass passivated chip
- Very low leakage current
- Very low forward voltage drop
- Improved thermal behaviour

Typical Application

- Diode for main rectification
- For single and three phase bridge configurations

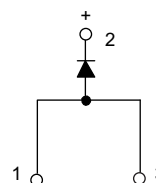
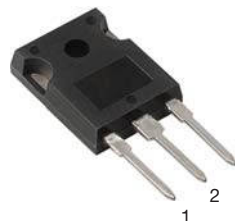
Mechanical Data • Package: TO-247-3L

Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free

- **Terminals:** Backside: DBC ceramic , Soldering pins for PCB mounting , Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

	V_{RSM} V	V_{RRM} V
DSI8080D	800	800
DSI80120D	1200	1200

TO-247-3L



Maximum Ratings

Symbol	Test Conditions	Maximum Ratings	Unit
$I_{F(AV)M}$	$T_C=115^{\circ}C$; 180 sine	80	A
I_{FSM}	$T_{VJ}=45^{\circ}C$; $V_R=0V$; $t=10ms$ (50Hz), sine	1500	A
	$T_{VJ}=150^{\circ}C$; $V_R=0V$; $t=8.3ms$ (60Hz), sine	1750	
I^2t	$T_{VJ}=45^{\circ}C$; $V_R=0V$; $t=10ms$ (50Hz), sine	760	A^2s
	$T_{VJ}=150^{\circ}C$; $V_R=0V$; $t=8.3ms$ (60Hz), sine	840	
T_{VJ}		-40...+175	$^{\circ}C$
T_{VJM}		175	
T_{stg}		-40...+175	
M_d	Mounting torque	0.8...1.2	Nm
	Non-Isolated		
Weight		6	g

Symbol	Test Conditions	Characteristic Values	Unit
I_R	$T_{VJ}=T_{VJM}$; $V_R=V_{RRM}$	≤ 3	mA
V_F	$I_F=80A$; $T_{VJ}=25^{\circ}C$	≤ 1.15	V
V_{To}	For power-loss calculations only	0.8	V
r_T	$T_{VJ}=T_{VJM}$	8	$m\Omega$
R_{thJC}	DC current	0.55	K/W
R_{thCH}	typical	0.2	

■ Characteristics(Typical)

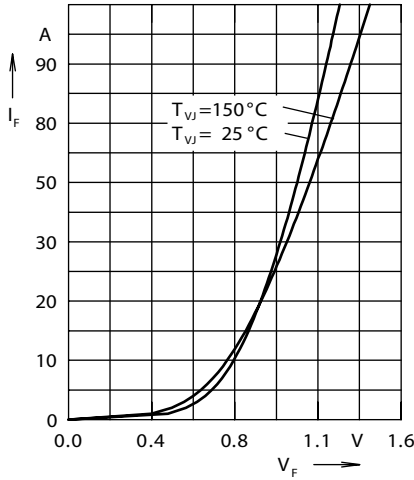


Fig. 1 Forward current versus voltage drop per diode

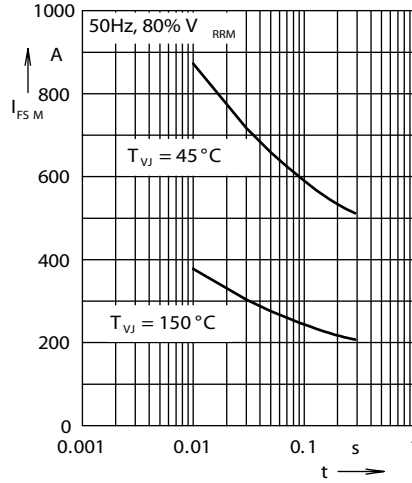


Fig. 2 Surge overload current

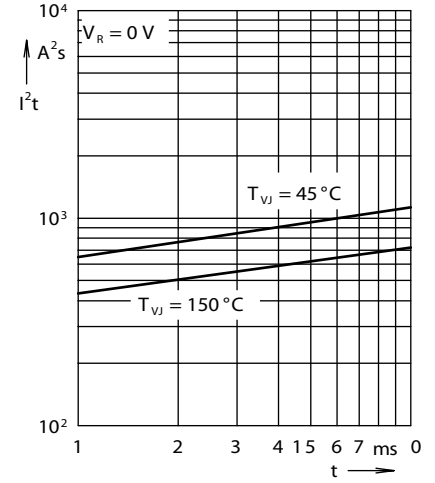


Fig. 3 I^2t versus time per diode

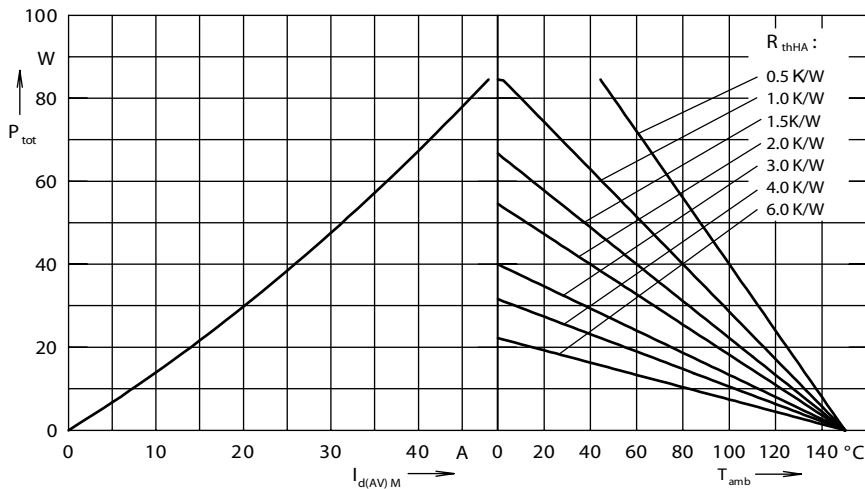


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

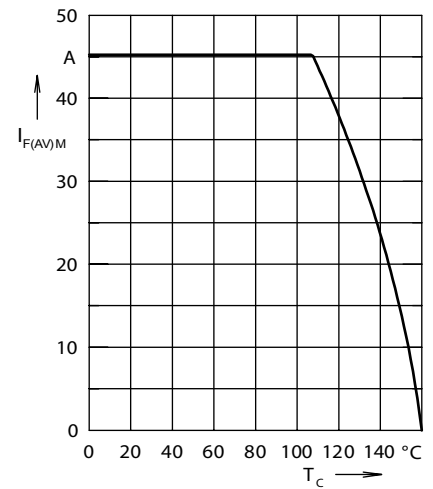


Fig. 5 Max. forward current versus case temperature

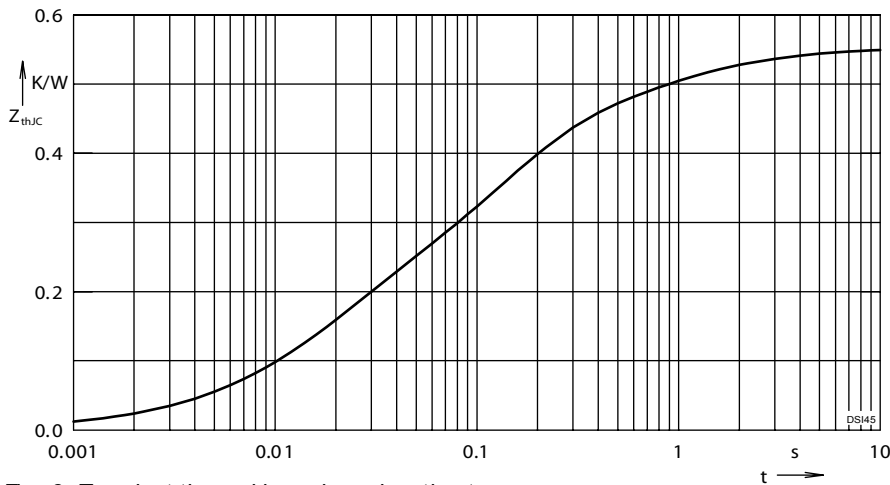


Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.1633	0.016
2	0.2517	0.118
3	0.0933	0.588
4	0.04167	2.6

