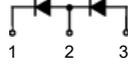
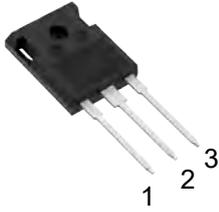
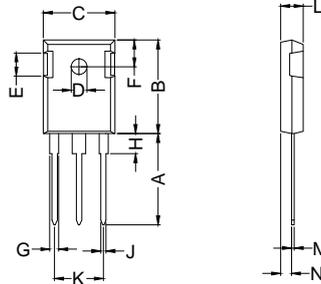


# SDD25N16

## Discrete Diodes



Dimensions TO-247AD



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.620	0.640
ØD	3.15	3.65	0.124	0.144
E	4.32	5.49	0.170	0.216
F	5.40	6.30	0.213	0.248
G	1.65	2.18	0.065	0.086
H	3.80	4.50	0.150	0.177
J	1.00	1.40	0.039	0.055
K	10.80	11.10	0.425	0.437
L	4.70	5.30	0.185	0.209
M	0.40	0.80	0.016	0.031
N	1.50	2.49	0.059	0.098

	$V_{RSM}$ V	$V_{RRM}$ V
<b>SDD25N01</b>	200	100
<b>SDD25N02</b>	300	200
<b>SDD25N04</b>	500	400
<b>SDD25N08</b>	900	800
<b>SDD25N10</b>	1100	1000
<b>SDD25N12</b>	1300	1200
<b>SDD25N16</b>	1700	1600

Symbol	Test Conditions	Maximum Ratings	Unit
$I_{FRMS}$	$T_{VJ}=T_{VJM}$	43	A
$I_{F(AV)M}$	$T_C=100^{\circ}C$ ; 180° sine	28	
$I_{FSM}$	$T_{VJ}=45^{\circ}C$ ; $V_R=0V$ ; $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	300 330	A
	$T_{VJ}=150^{\circ}C$ ; $V_R=0V$ ; $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	270 300	
$I^2t$	$T_{VJ}=45^{\circ}C$ ; $V_R=0V$ ; $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	450 450	$A^2s$
	$T_{VJ}=150^{\circ}C$ ; $V_R=0V$ ; $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	340 325	
$T_{VJ}$ $T_{VJM}$ $T_{stg}$		-40...+180 180 -40...+150	$^{\circ}C$
$M_d$ $F_C$	Mounting torque Mounting force with clip	0.8...1.2 20...120	Nm N
Weight	Typical	6	g

Symbol	Test Conditions	Characteristic Values	Unit
$I_R$	$T_{VJ}=150^{\circ}C$ ; $V_R=V_{RRM}$	$\leq 2$	mA
$V_F$	$I_F=25A$ ; $T_{VJ}=25^{\circ}C$	$\leq 1.25$	V
$V_{TO}$	For power-loss calculations only	0.8	V
$r_T$	$T_{VJ}=T_{VJM}$	15	mΩ
$R_{thJC}$	DC current	1.5	K/W
$R_{thCK}$	DC current(with heatsink compound) typ.	0.4	



# SDD25N16

## Discrete Diodes

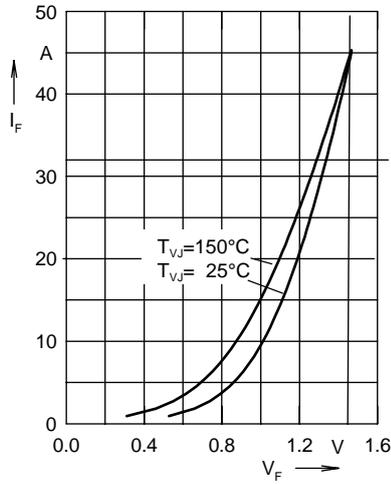


Fig. 1 Forward current versus voltage drop per diode

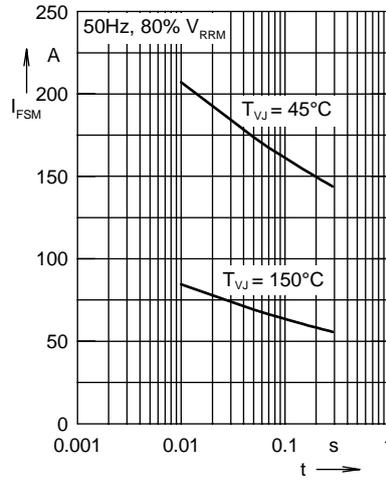


Fig. 2 Surge overload current

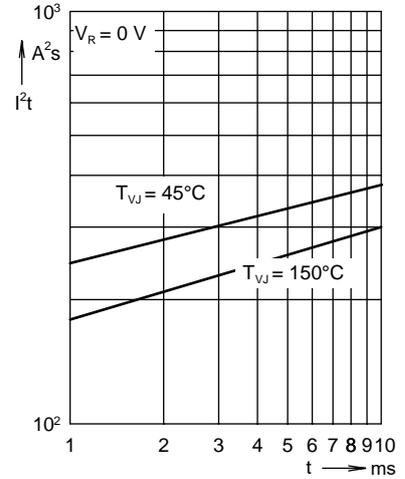


Fig. 3  $I^2t$  versus time per diode

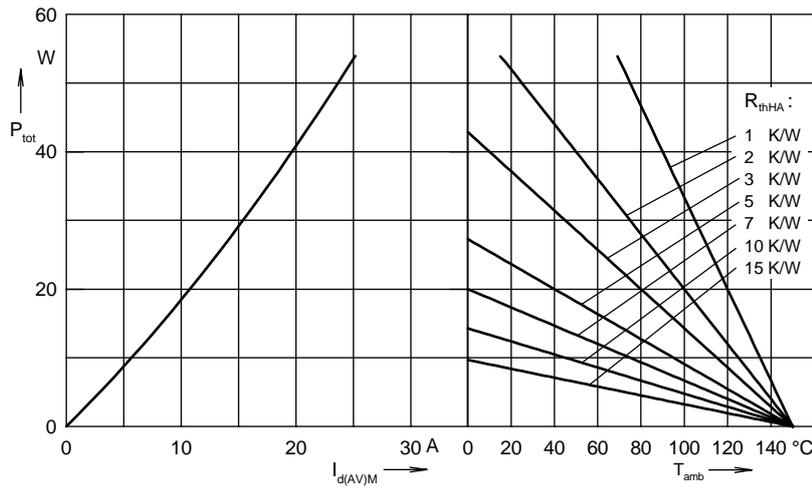


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180 °

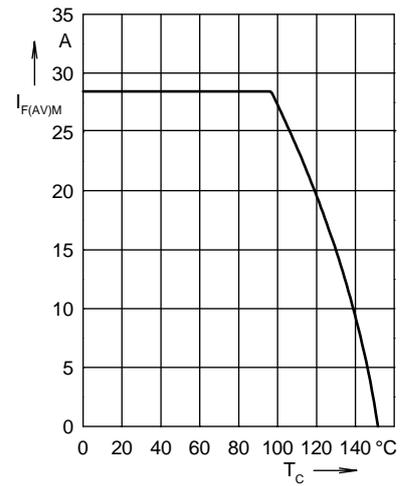


Fig. 5 Max. forward current versus case temperature

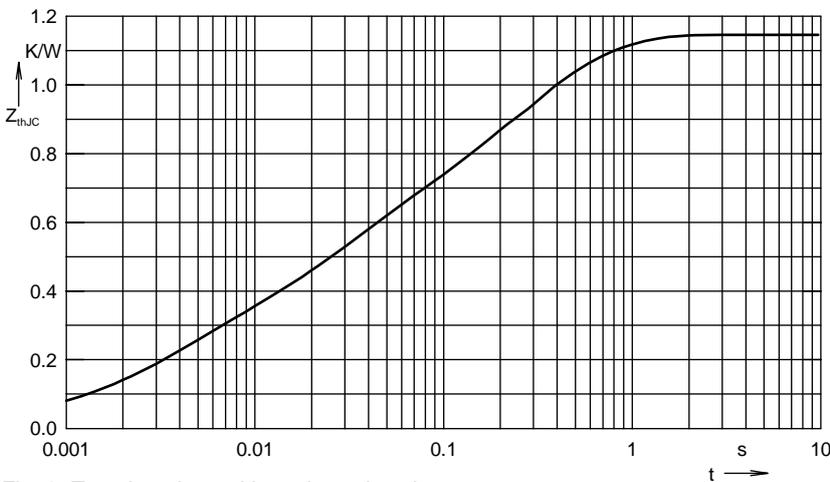


Fig. 6 Transient thermal impedance junction to case



Constants for  $Z_{thjC}$  calculation:

i	$R_{thi}$ (K/W)	$t_i$ (s)
1	0.01362	0.0001
2	0.1962	0.00316
3	0.267	0.023
4	0.3052	0.4
5	0.218	0.15