

IXYS

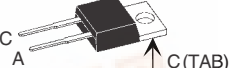
DGS 9-03AS
DGS 10-03A

Gallium Arsenide Schottky Rectifier

$$I_{FAV} = 11 \text{ A}$$

$$V_{RRM} = 300 \text{ V}$$

$$C_{Junction} = 9 \text{ pF}$$

Type	Marking on product	Circuit	Package
			A = Anode, C = Cathode, TAB = Cathode
DGS 9-03AS	9A300AS		TO-252 AA 
DGS 10-03A	DGS 10-03A		TO-220 AC 

Symbol	Conditions	Maximum Ratings	Features
$V_{RRM/RSM}$		300 V	• Low forward voltage
I_{FAV}	$T_C = 25^\circ\text{C}$; DC	11 A	• Very high switching speed
I_{FAV}	$T_C = 90^\circ\text{C}$; DC	8 A	• Low junction capacity of GaAs
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$ (50 Hz), sine	20 A	- low reverse current peak at turn off
T_{VJ}		-55...+175 $^\circ\text{C}$	• Soft turn off
T_{stg}		-55...+150 $^\circ\text{C}$	• Temperature independent switching behaviour
P_{tot}	$T_C = 25^\circ\text{C}$	34 W	• High temperature operation capability
M_d	mounting torque (TO-220)	0.4...0.6 Nm	• Epoxy meets UL 94V-0

Symbol	Conditions	Characteristic Values	Applications
		typ. max.	
I_R ①	$T_{VJ} = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_{VJ} = 125^\circ\text{C}$ $V_R = V_{RRM}$	1.3 mA 1.3 mA	• MHz switched mode power supplies (SMPs)
V_F	$I_F = 5 \text{ A}$; $T_{VJ} = 125^\circ\text{C}$ $I_F = 5 \text{ A}$; $T_{VJ} = 25^\circ\text{C}$	1.6 V 1.6 V	• Small size SMPs
C_J	$V_R = 150 \text{ V}$; $T_{VJ} = 125^\circ\text{C}$	9 pF	• High frequency converters
R_{thJC}		4.4 K/W	• Resonant converters
R_{thCH}	TO-220	0.5 K/W	
Weight	TO-252	0.3 g	
	TO-220	2 g	

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %

Data according to IEC 60747 and per diode unless otherwise specified

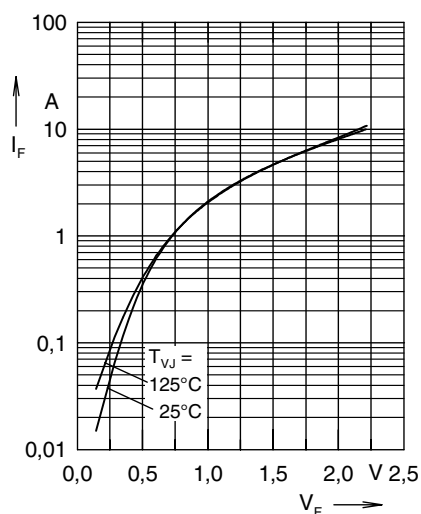


Fig. 1 typ. forward characteristics

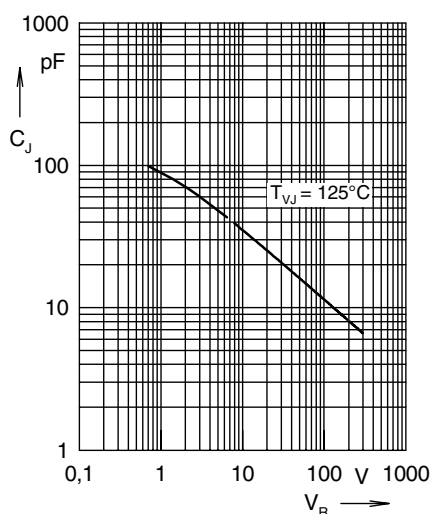


Fig. 2 typ. junction capacity versus blocking voltage

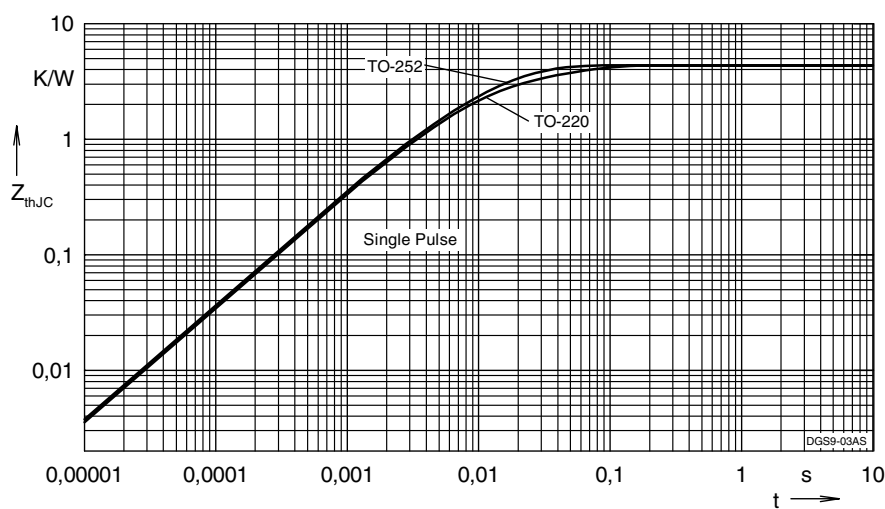
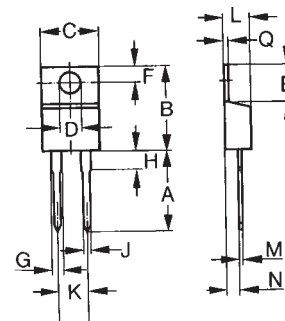


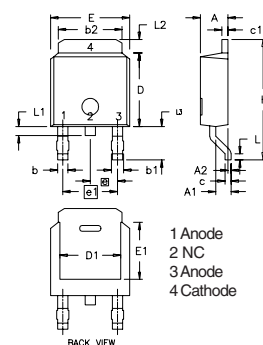
Fig. 3 typ. thermal impedance junction to case

Outlines TO-220 AC



Dim.	Millimeter Min. Max.	Inches Min. Max.
A	12.70 14.73	0.500 0.580
B	14.23 16.51	0.560 0.650
C	9.66 10.66	0.380 0.420
D	3.54 4.08	0.139 0.161
E	5.85 6.85	2.300 0.420
F	2.54 3.42	0.100 0.135
G	1.15 1.77	0.045 0.070
H	- 6.35	- 0.250
J	0.64 0.89	0.025 0.035
K	4.83 5.33	0.190 0.210
L	3.56 4.82	0.140 0.190
M	0.51 0.76	0.020 0.030
N	2.04 2.49	0.080 0.115
Q	0.64 1.39	0.025 0.055

Outlines TO-252 AA



Dim.	Millimeter Min. Max.	Inches Min. Max.
A	2.19 2.38	0.086 0.094
A1	0.89 1.14	0.035 0.045
A2	0 0.13	0 0.005
b	0.64 0.89	0.025 0.035
b1	0.76 1.14	0.030 0.045
b2	5.21 5.46	0.205 0.215
c	0.46 0.58	0.018 0.023
c1	0.46 0.58	0.018 0.023
D	5.97 6.22	0.235 0.245
D1	4.32 5.21	0.170 0.205
E	6.35 6.73	0.250 0.265
E1	4.32 5.21	0.170 0.205
e	2.28 BSC	0.090 BSC
e1	4.57 BSC	0.180 BSC
H	9.40 10.42	0.370 0.410
L	0.51 1.02	0.020 0.040
L1	0.64 1.02	0.025 0.040
L2	0.89 1.27	0.035 0.050
L3	2.54 2.92	0.100 0.115