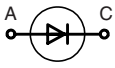
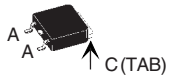
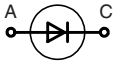
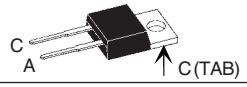
Gallium Arsenide Schottky Rectifier

I_{FAV} = 11 A
V_{RRM} = 300 V
$C_{Junction}$ = 9 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	
$V_{RRM/RSM}$		300	V
I_{FAV}	T_C = 25°C; DC	11	A
I_{FAV}	T_C = 90°C; DC	8	A
I_{FSM}	T_{VJ} = 45°C; t_p = 10 ms (50 Hz), sine	20	A
T_{VJ}		-55...+175	°C
T_{stg}		-55...+150	°C
P_{tot}	T_C = 25°C	34	W
M_d	mounting torque (TO-220)	0.4...0.6	Nm

Symbol	Conditions		Characteristic Values typ.	max.	
I_R ①	T_{VJ} = 25°C	$V_R = V_{RRM}$		1.3	mA
	T_{VJ} = 125°C	$V_R = V_{RRM}$	1.3		mA
V_F	I_F = 5 A;	T_{VJ} = 125°C	1.6		V
	I_F = 5 A;	T_{VJ} = 25°C	1.6	2	V
C_J	V_R = 150 V;	T_{VJ} = 125°C	9		pF
R_{thJC}				4.4	K/W
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

Features

- Low forward voltage
- Very high switching speed
- Low junction capacity of GaAs
  - low reverse current peak at turn off
- Soft turn off
- Temperature independent switching behaviour
- High temperature operation capability
- Epoxy meets UL 94V-0

Applications

- MHz switched mode power supplies (SMPs)
- Small size SMPs
- High frequency converters
- Resonant converters

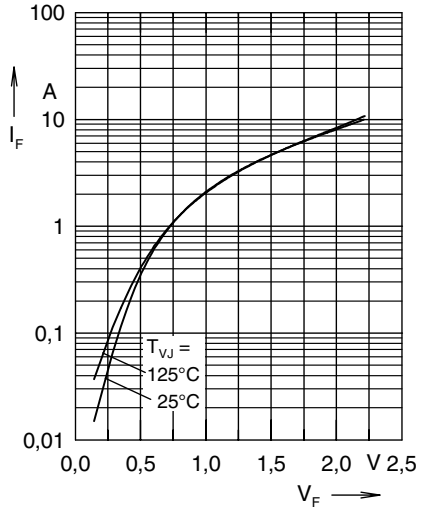


Fig. 1typ. forward characteristics

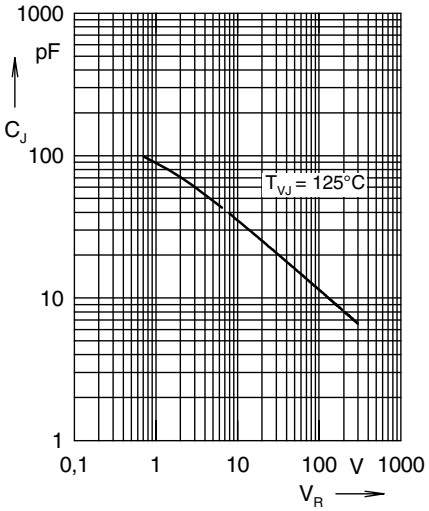


Fig. 2 typ. junction capacity versus blocking voltage

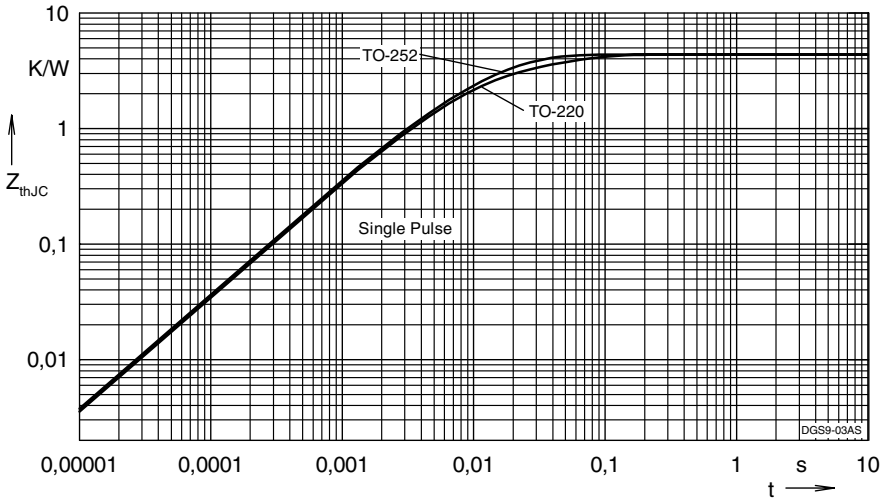
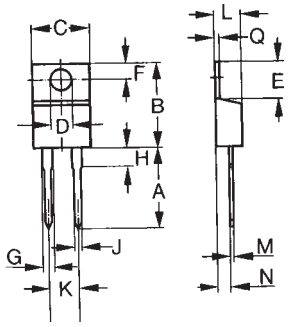


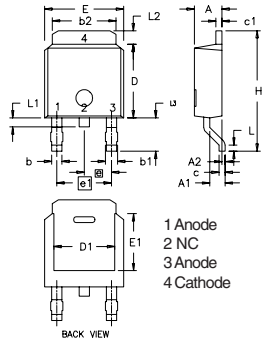
Fig. 3 typ. thermal impedance junction to case

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

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