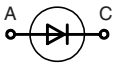
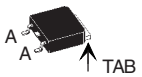
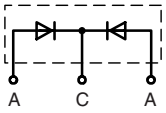
Gallium Arsenide Schottky Rectifier

Second generation

V_{RRM} = 250 V
I_{DC} = 21 A
$C_{Junction}$ = 15 pF

Type	Marking on product	Circuit	Package
DGS 13-025CS	13A250AS	Single 	TO-252 AA 
DGSK 28-025CS	DGSK 28-025CS	Common cathode 	TO-263 AB  A = Anode, TAB = Cathode

Diode

Symbol	Conditions	Maximum Ratings	
$V_{RRM/RSM}$		250	V
I_{FAV}	T_C = 25°C; DC	21	A
I_{FAV}	T_C = 90°C; DC	14	A
I_{FSM}	T_{VJ} = 45°C; t_p = 10 ms (50 Hz), sine	80	A
P_{tot}	T_C = 25°C	34	W

Symbol	Conditions		Characteristic Values min.	typ.	max.	
V_F	I_F = 7.5 A;	T_{VJ} = 25°C		1.4	1.7	V
	I_F = 7.5 A;	T_{VJ} = 125°C		1.2		V
I_R	$V_R = V_{RRM}$;	T_{VJ} = 25°C			0.25	mA
	$V_R = V_{RRM}$;	T_{VJ} = 125°C		0.25		mA
I_{RM}	I_F = 10 A;	$-di_F/dt$ = 400 A/µs;		2.7		A
t_{rr}	V_R = 100 V;	T_{VJ} = 125°C		18		ns
C_J	V_R = 100 V;	T_{VJ} = 125°C		15		pF
R_{thJC}					4.4	K/W

Data according to IEC 60747 and per diode unless otherwise specified

Component

Symbol	Conditions	Maximum Ratings	
T_{VJ}		-55...+175	°C
T_{stg}		-55...+150	°C

Symbol	Conditions	Characteristic Values min.	typ.	max.	
Weight	TO-252		0.3		g
	TO-263		2		g

Features

GaAs Schottky Diode with Enhanced Barrier Height:
- lowest operating forward voltage drop due to additional injection of minority carriers
- high switching speed
  - low junction capacity of GaAs diode independent from temperature
  - short and low reverse recovery current peak due to short lifetime of minority carriers
  - soft turn off

Surface Mount Packages:
- Incorporating Single and Dual Diode Topologies
- Industry Standard Package Outlines
- Epoxy meets UL 94V-0

Applications

Switched Mode Power Supplies:
- AC-DC converters
- DC-DC converters

with:
- high switching frequency
- high efficiency
- low EMI

for use e. g. in:
- telecom
- computer
- automotive equipment

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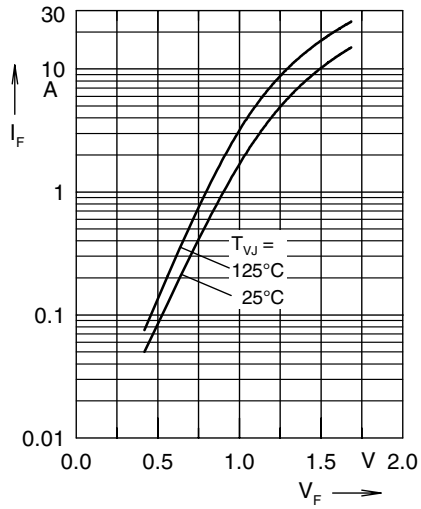


Fig. 1 typ. forward characteristics

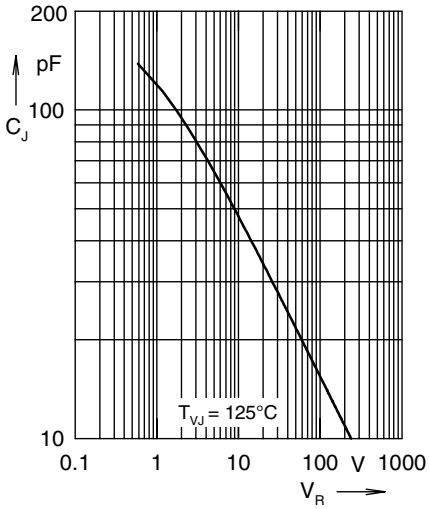


Fig. 2 typ. junction capacity versus blocking voltage

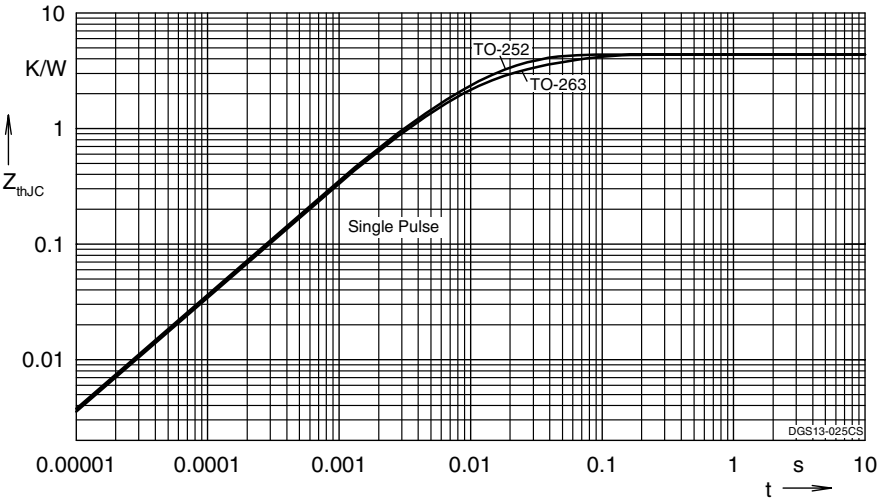
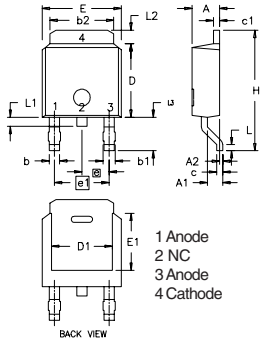


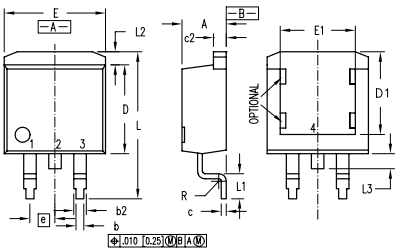
Fig. 3 typ. thermal impedance junction to case

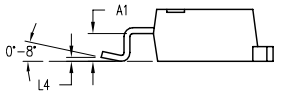
Outlines TO-252 AA



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

Outlines TO-263 AB





1. Gate
2. Collector
3. Emitter
4. Collector

Dim.	Millimeter Min.	Max.	Inches Min.	Max.
A	4.06	4.83	.160	.190
A1	2.03	2.79	.080	.110
b	0.51	0.99	.020	.039
b2	1.14	1.40	.045	.055
c	0.46	0.74	.018	.029
c2	1.14	1.40	.045	.055
D	8.64	9.65	.340	.380
D1	8.00	8.89	.315	.350
E	9.65	10.29	.380	.405
E1	6.22	8.13	.245	.320
e	2.54 BSC		.100 BSC	
L	14.61	15.88	.575	.625
L1	2.29	2.79	.090	.110
L2	1.02	1.40	.040	.055
L3	1.27	1.78	.050	.070
L4	0	0.20	0	.008
R	0.46	0.74	.018	.029

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