

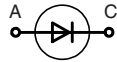

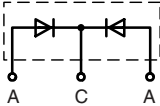

Gallium Arsenide Schottky Rectifier

Second generation

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

$$I_{DC} = 29 \text{ A}$$

$$C_{\text{Junction}} = 10.7 \text{ pF}$$

Type	Marking on product	Circuit	Package
DGS 17-03CS	17A300AS	Single 	TO-252 AA 
DGSK 36-03CS	DGSK 36-03CS	Common cathode 	TO-263 AB  A = Anode, TAB = Cathode

Diode				
Symbol	Conditions	Maximum Ratings		
$V_{RRM/RSM}$		300	V	
I_{FAV}	$T_C = 25^\circ\text{C}; \text{DC}$	29	A	
I_{FAV}	$T_C = 90^\circ\text{C}; \text{DC}$	17.5	A	
I_{FSM}	$T_{VJ} = 45^\circ\text{C}; t_p = 10 \text{ ms (50 Hz), sine}$	80	A	
P_{tot}	$T_C = 25^\circ\text{C}$	34	W	
Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
V_F	$I_F = 7.5 \text{ A}; T_{VJ} = 25^\circ\text{C}$	1.5	1.9	V
	$I_F = 7.5 \text{ A}; T_{VJ} = 125^\circ\text{C}$	1.1		V
I_R	$V_R = V_{RRM}; T_{VJ} = 25^\circ\text{C}$		0.25	mA
	$V_R = V_{RRM}; T_{VJ} = 125^\circ\text{C}$	0.25		mA
I_{RM}	$I_F = 5 \text{ A}; -di_F/dt = 150 \text{ A}/\mu\text{s};$ $V_R = 150 \text{ V}; T_{VJ} = 125^\circ\text{C}$	1.4		A
t_{rr}		23		ns
C_J	$V_R = 150 \text{ V}; T_{VJ} = 125^\circ\text{C}$	10.7		pF
R_{thJC}				4.4 KW

Data according to IEC 60747 and per diode unless otherwise specified

Component				
Symbol	Conditions	Maximum Ratings		
T_{VJ}		-55...+175	$^\circ\text{C}$	
T_{stg}		-55...+150	$^\circ\text{C}$	
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

IXYS reserves the right to change limits, Conditions and dimensions.

