IXYSRF

GS150TA25104
GS150TI25104 **GS150TC25104**

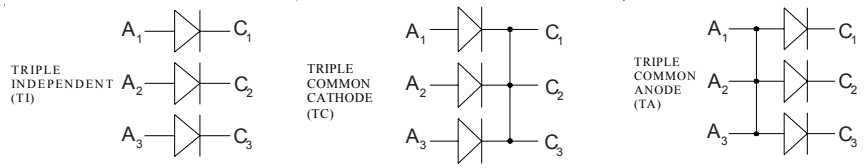
Gallium Arsenide Schottky Rectifier

Isolated Surface Mount Package

Preliminary Data

I_{DC} = 4 A
V_{RRM} = 250 V
$C_{Junction}$ = 9 pF

V_{RSM} V	V_{RRM} V	Type	Part Number	Configuration
250	250	GS150	TI25104	Triple Independent
250	250	GS150	TC25104	Triple Common cathode
250	250	GS150	TA25104	Triple Common anode



A = Anode, C = Cathode

Symbol	Conditions	Maximum Ratings	
I_{FAV}	T_C = 25°C; DC	04	A
I_{FAV}	T_C = 90°C; DC	3.5	A
I_{FSM}	T_{VJ} = 45°C; t_p = 10 ms (50 Hz), sine	10	A
T_{VJ}		-55...+175	°C
T_{stg}		-55...+150	°C
P_{tot}	T_C = 25°C (20W/device)	30	W
Isolation	(Substrate to Case)	>2500	V
Isolation	(Diode to Diode)	>600	V

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 = 2 A; T_{VJ} = 125°C	1.3		V
	I_F = 2 A; T_{VJ} = 25°C	1.2	1.5	V
C_J	V_R = 100 V; T_{VJ} = 125°C	9		pF
R_{thJC}			5	K/W
Weight			2	g

Features

- Low forward voltage
- Very high switching speed Trr <15ns
- 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)
- High frequency converters
- Resonant converters

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

Data per diode unless otherwise specified

IXYSRF reserves the right to change limits, conditions and dimensions.

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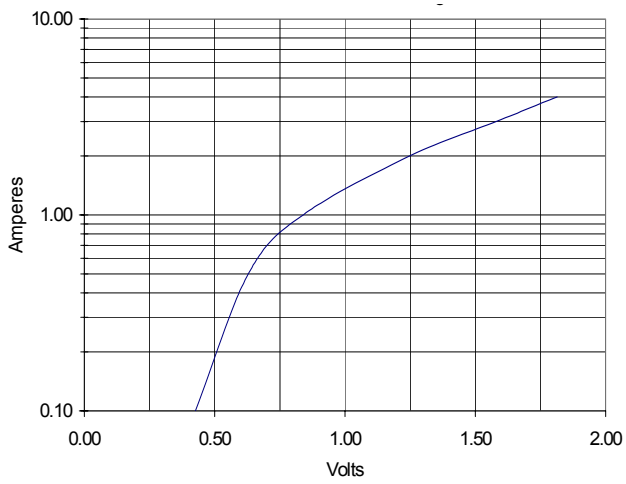


Fig. 1 Typical forward characteristics

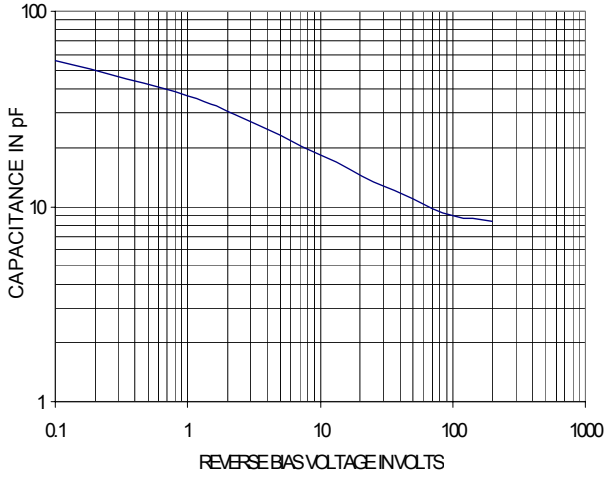


Fig. 2 Typical junction capacity versus blocking voltage

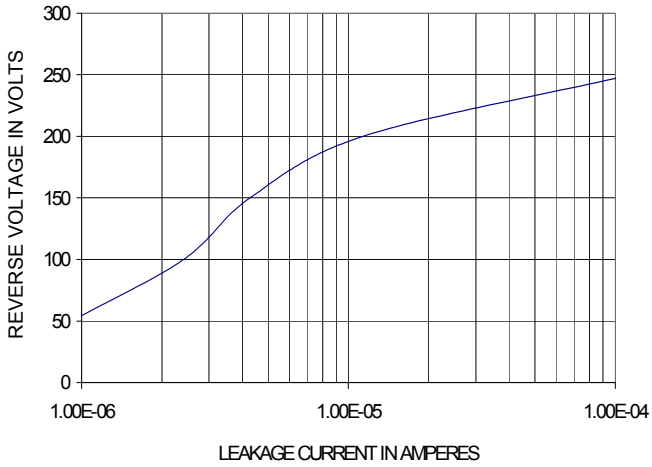


Fig. 3 Typical leakage current vs. voltage at 25C

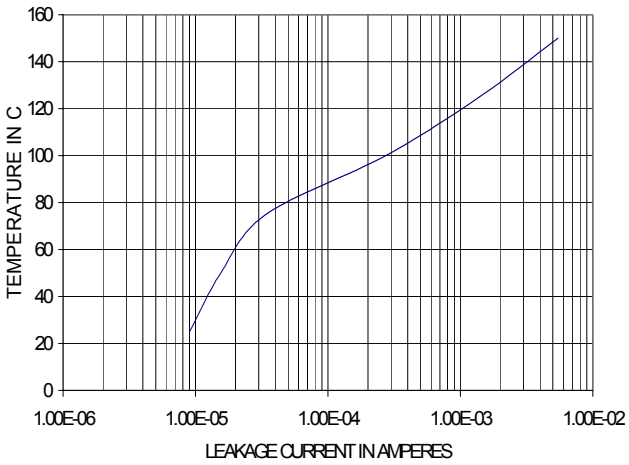
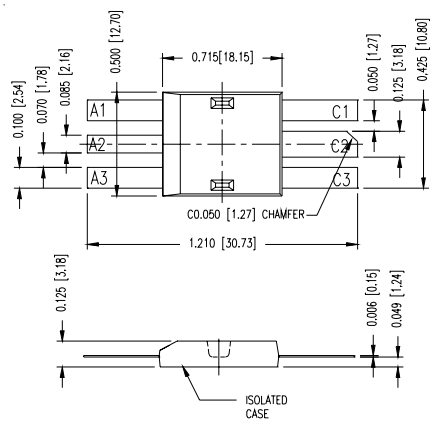


Fig. 4 Typical leakage current vs. temperature at 100V Reverse

Explanatory comparison of the basic operational behavior of rectifier diodes and Gallium Arsenide Schottky diodes:

	Rectifier Diode	GaAs Schottky Diode
Conduction	By majority + minority carriers	By majority carriers only
Forward characteristics	V_F (I_F)	V_F (I_F), see Fig. 1
Turn off characteristics	Extraction of excess carriers causes temperature dependant reverse recovery (t_{rr}, I_{RM}, Q_{rr})	Reverse current charges junction capacity C_J, see Fig. 2; not temperature dependent
Turn on characteristics	Delayed saturation leads to V_{FR}	No turn on overvoltage peak



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