

GaAs Schottky Diode

Extremely Fast Recovery for RF & MHz Switching Applications

January 2003

Description

This new line of High Speed GaAs Schottky Diodes provide extremely fast recovery times, outperforming both Ultrafast and Silicon Carbide technologies. The recovery times and low junction capacitances combined with their inherently low forward voltages make this new product family ideal for High Frequency Converters, Resonant Converters and Switch Mode Power Supplies operating from the KHz-MHz range.

The GaAs devices are packaged in the low inductance, low profile, electrically isolated, surface mount DE-150 package. The matched thermal coefficient of expansion between the aluminum nitride substrate and the GaAs Diode result in improved reliability and power cycling performance.

The GaAs Schottky products have an added advantage when used in conjunction with the DE Series Switch Mode & RF Mosfets. Both products utilize the same package profiles resulting in a convenient single plane to heat sink.

Each device contains three diodes, with three different configuration options; Triple Independent, Triple Common Cathode, and Triple Common Anode.

Advantages

- Extremely Fast Reverse Recovery Times, Typically <15nS
- Much lower forward Voltage than Silicon Carbide
- Isolated, low inductance, surface mount, high power package



GS150TI25104	GS150TI25120
GS150TC25104	GS150TC25120
GS150TA25104	GS150TA25120
GS150TI25110	GS150TI25150
GS150TC25110	GS150TC25150
GS150TA25110	GS150TA25150

SUMMARY TABLE - GaAs SCHOTTKY

Part Type	V_{RRM}	$I_{D(25)}$	$C_{JUNCTION}$	$V_{F(IF=2A)}$	$P_{TOT(25)}$	R_{THJC}
*GS150T_25104	250 V	4 A	9pF	1.5V	9 W	16.3 C/W
*GS150T_25110	250 V	10 A	18pF	1.5V	15 W	9.6 C/W
*GS150T_25120	250 V	20 A	36pF	1.5V	20 W	7.2 C/W
*GS150T_25150	250 V	50 A	TBD	TBD	TBD	TBD

*Three configuration options available: TI - Triple Independent, TC - Triple Common Cathode, TA - Triple Common Anode
Example: GS150TI25104 - The Triple Independent version.

PART NUMBER GUIDE

EXAMPLE: GS150TI25104

GS 150 TI 251 04

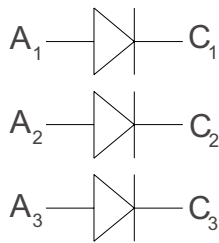
GaAs
SCHOTTKY

DE150
PACKAGE

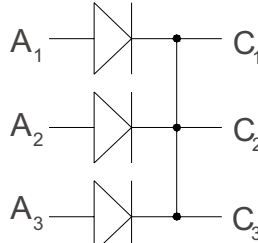
TRIPLE
INDEPENDENT
CONFIGURATION

250V
BREAK DOWN

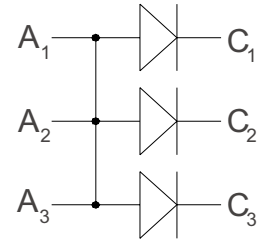
04 AMP
(ADDITIONAL DIGIT
ADDED FOR > 99 AMPS)



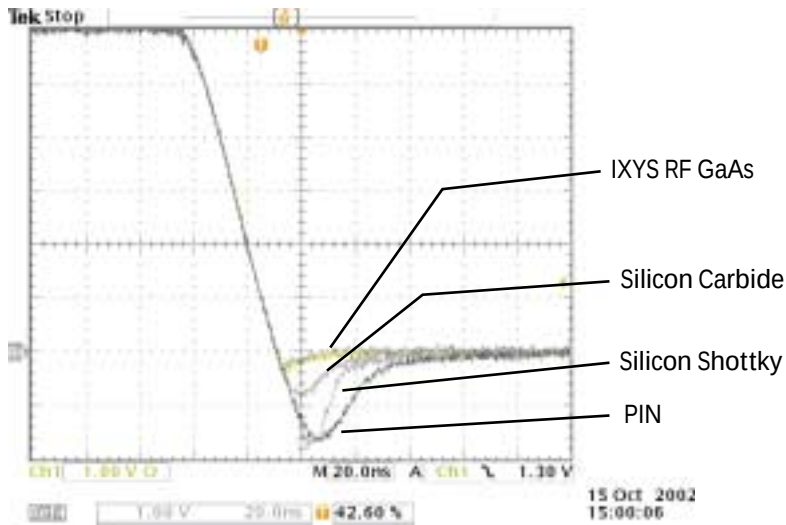
TRIPLE
INDEPENDENT
(TI)



TRIPLE
COMMON
CATHODE
(TC)



TRIPLE
COMMON
ANODE
(TA)



REVERSE RECOVERY

5A forward Current, di/dt of 150 A/usec, Vf = 100V

