

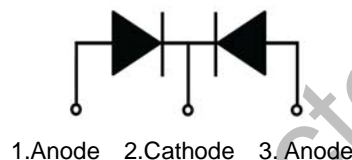
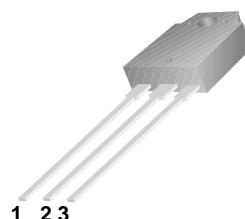


D92-02

Features:

- Ultrafast Recovery Time.
- Soft Recovery Characteristics.
- Low Recovery Loss.
- Low Forward Voltage.
- High Surge Current Capability.
- Low Leakage Current.

TO-3P



ABSOLUTE MAXIMUM RATINGS

 $T_C = 25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Test Conditions	Values	Unit
V_R	Maximum D.C. Reverse Voltage		220	V
V_{RRM}	Maximum Repetitive Reverse Voltage		220	V
$I_{F(AV)}$	Average Forward Current	$T_C = 110^\circ\text{C}$, Per Diode	10	A
		$T_C = 110^\circ\text{C}$, Per Package	20	A
$I_{F(RMS)}$	RMS Forward Current	$T_C = 110^\circ\text{C}$, Per Diode	14	A
I_{FSM}	Non-Repetitive Surge Forward Current	$T_J = 45^\circ\text{C}$, $t = 10\text{ms}$, 50Hz, Sine	100	A
P_D	Power Dissipation		83	W
T_J	Junction Temperature		-40 to +150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range		-40 to +150	$^\circ\text{C}$
Torque	Module-to-Sink	Recommended (M3)	1.1	N·m
$R_{\theta JC}$	Thermal Resistance	Junction-to-Case	1.5	$^\circ\text{C/W}$
Weight			5.2	g

ELECTRICAL CHARACTERISTICS

 $T_C = 25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{RM}	Reverse Leakage Current	$V_R = 220\text{V}$	--	--	10	μA
		$V_R = 220\text{V}$, $T_J = 125^\circ\text{C}$	--	--	10	mA
V_F	Forward Voltage	$I_F = 10\text{A}$	--	0.9	1.1	V
		$I_F = 10\text{A}$, $T_J = 125^\circ\text{C}$	--	--	0.95	V
t_{rr}	Reverse Recovery Time	$I_F = 1\text{A}$, $V_R = 30\text{V}$, $di_F/dt = -200\text{A}/\mu\text{s}$	--	17	--	ns
t_{rr}	Reverse Recovery Time	$V_R = 100\text{V}$, $I_F = 10\text{A}$	--	32	--	ns
I_{RRM}	Max. Reverse Recovery Current	$di_F/dt = -200\text{A}/\mu\text{s}$, $T_J = 25^\circ\text{C}$	--	2.1	--	A
t_{rr}	Reverse Recovery Time	$V_R = 100\text{V}$, $I_F = 10\text{A}$	--	45	--	ns
I_{RRM}	Max. Reverse Recovery Current	$di_F/dt = -200\text{A}/\mu\text{s}$, $T_J = 125^\circ\text{C}$	--	5	--	A

Typical Characteristics

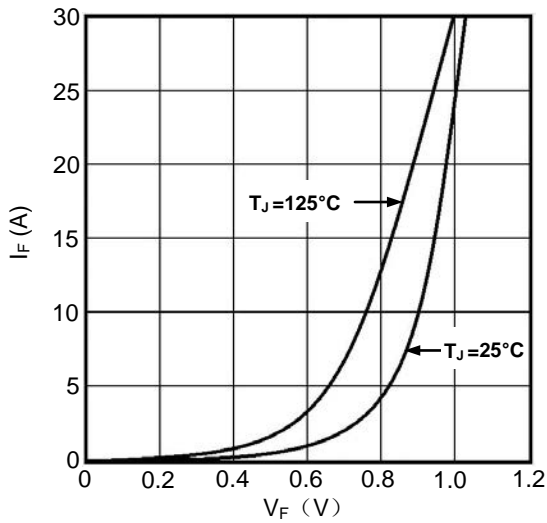


Fig1. Forward Voltage Drop vs Forward Current

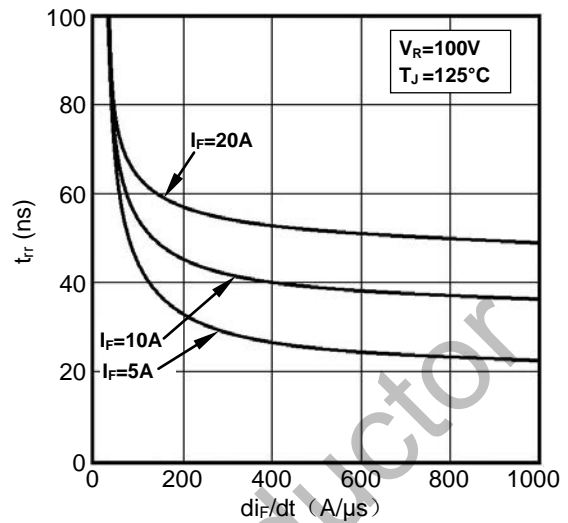


Fig2. Reverse Recovery Time vs diF/dt

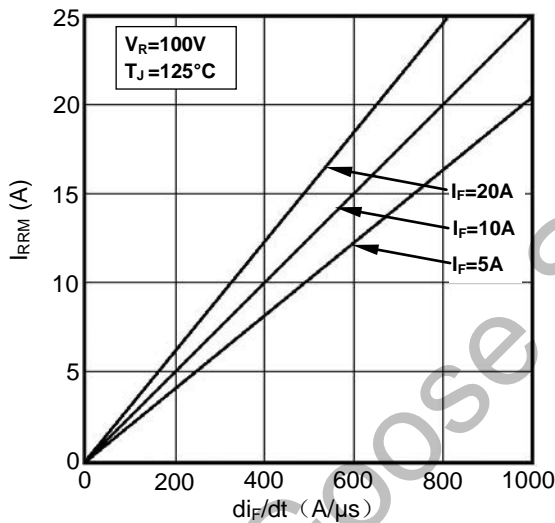


Fig3. Reverse Recovery Current vs diF/dt

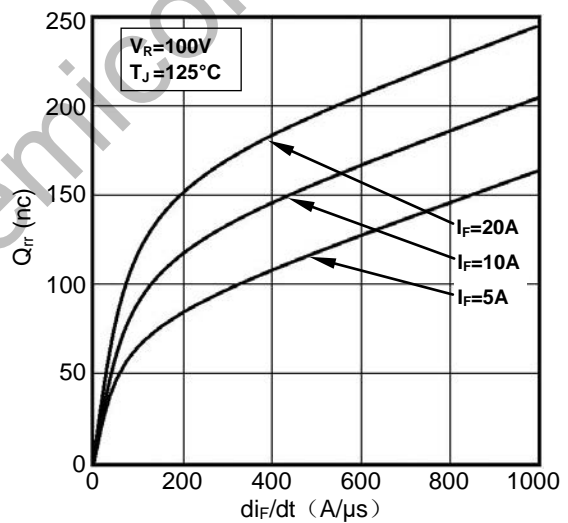


Fig4. Reverse Recovery Charge vs diF/dt

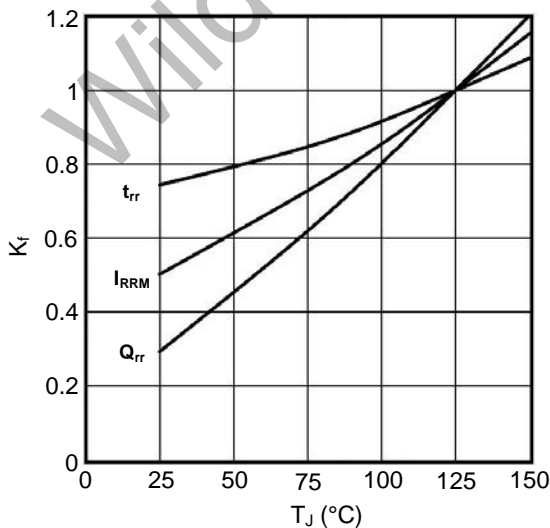


Fig5. Dynamic Parameters vs Junction Temperature

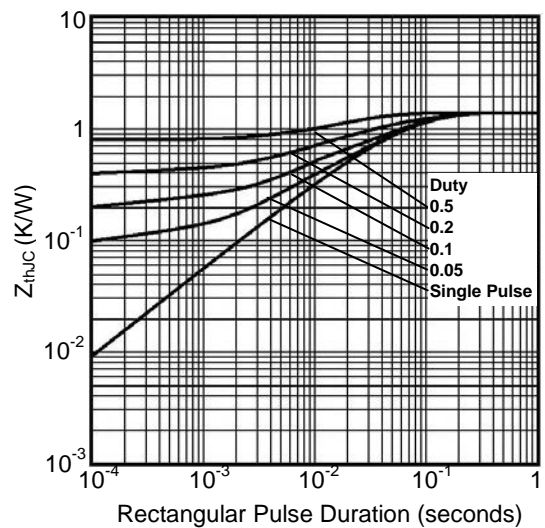


Fig6. Transient Thermal Impedance

Typical Characteristics(continued)

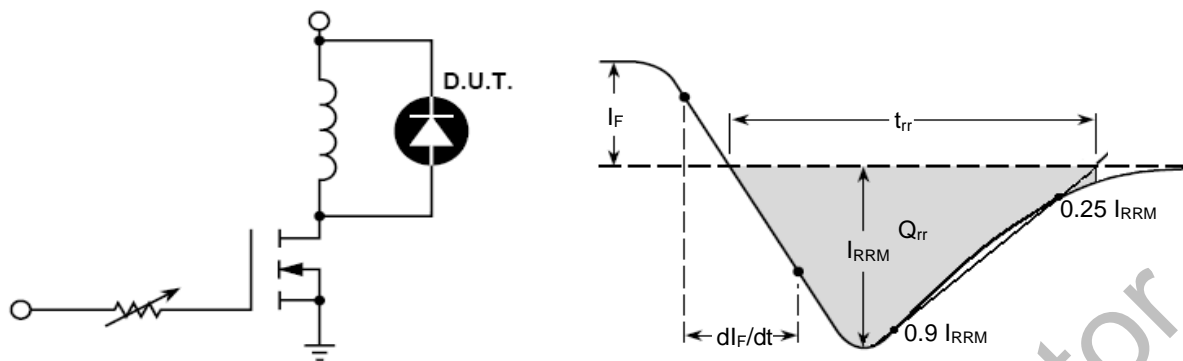


Fig7. Diode Reverse Recovery Test Circuit and Waveform

WildGoose Semiconductor

Package Dimension

TO-3P

