

Features

- Extremely low reverse current
- No reverse recovery current
- Temperature independent switching
- Positive temperature coefficient on V_F
- Excellent surge current capability
- Low capacitive charge

HF

Applications

- Switch mode power supplies (SMPS)
- Uninterruptible power supplies
- Motor drivers
- Power factor correction

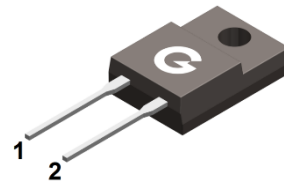
Mechanical Data

- Case: ITO-220AC
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

Key performance parameters

Type	GSC2D0465F
V_{DC}	650V
I_F @ 150°C	4A
Q_C @400V	13nC
T_J	175°C

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ITO-220AC

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
GSC2D0465F	ITO-220AC	50 pcs / Tube	GSC2D0465F

Maximum Ratings (@ $T_J = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	650	V
DC Blocking Voltage	V_{DC}	650	V
Continuous Forward Current ($T_C = 25^\circ\text{C}$)	I_F	11	A
Continuous Forward Current ($T_C = 125^\circ\text{C}$)	I_F	6	A
Continuous Forward Current ($T_C = 150^\circ\text{C}$)	I_F	4	A
Peak Forward Surge Current (10ms single half sine-wave, $T_C = 25^\circ\text{C}$)	I_{FSM}	31	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation ($T_C = 25^\circ\text{C}$)	P_D	37.5	W
Power Dissipation ($T_C = 110^\circ\text{C}$)	P_D	13.7	W
Thermal Resistance Junction-to-Case	$R_{\theta JC}$	4	$^\circ\text{C/W}$
Operating junction Temperature	T_J	-55 ~ +175	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Electrical Characteristics (@ $T_J = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 4\text{A}, T_J = 25^\circ\text{C}$	-	1.3	1.5	V
		$I_F = 4\text{A}, T_J = 175^\circ\text{C}$	-	1.55	2.2	V
Maximum Peak Reverse Current	I_R	$V_R = 650\text{V}, T_J = 25^\circ\text{C}$	-	0.1	20	μA
		$V_R = 650\text{V}, T_J = 175^\circ\text{C}$	-	2.5	100	μA
Total Capacitive Charge	Q_C	$V_R = 400\text{V}$	-	13	-	nC
Total Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$	-	228	-	pF
		$V_R = 200\text{V}, f = 1\text{MHz}$	-	31	-	
		$V_R = 400\text{V}, f = 1\text{MHz}$	-	27	-	

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

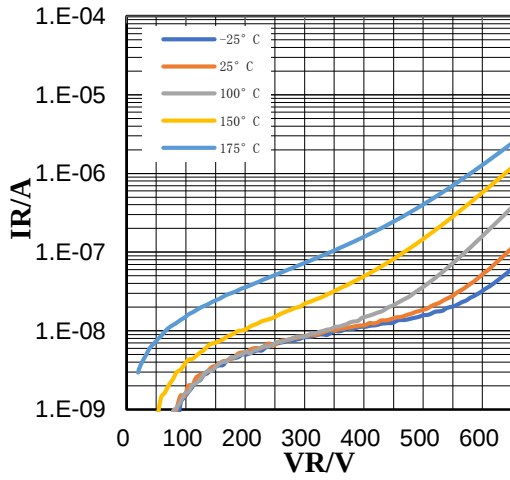


Fig 1 Typical Reverse Characteristic

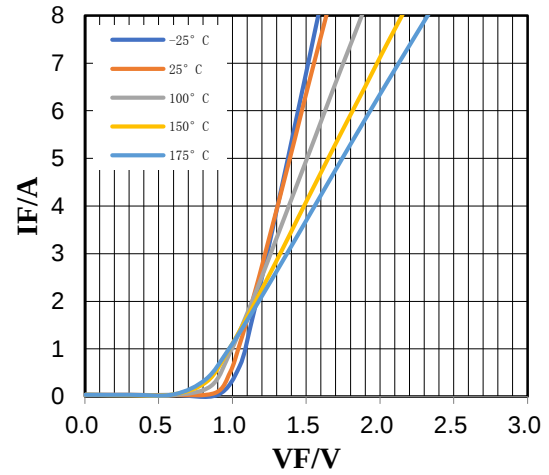


Fig 2 Typical Forward Characteristics

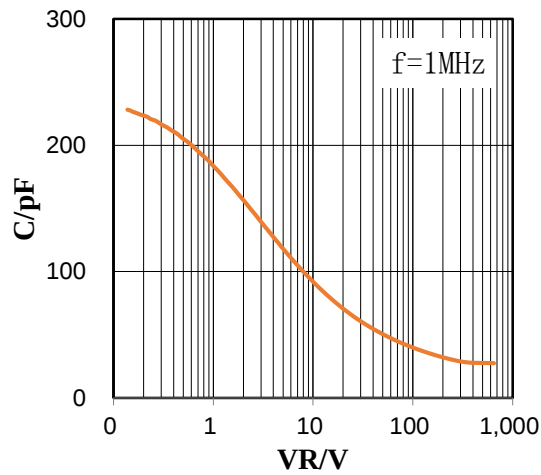


Fig 3 Capacitance Characteristics

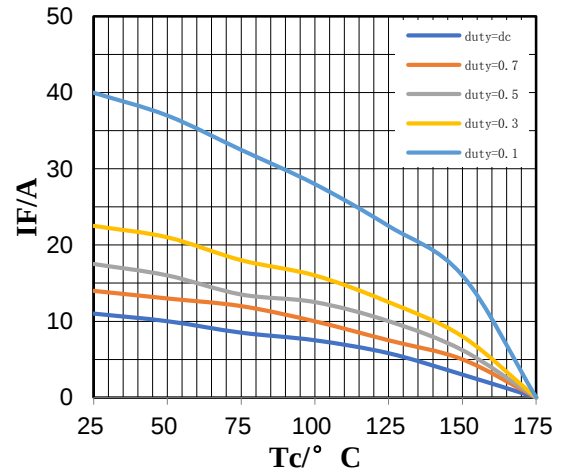


Fig 4 Diode Forward Current as Function of Temperature, D = duty cycle

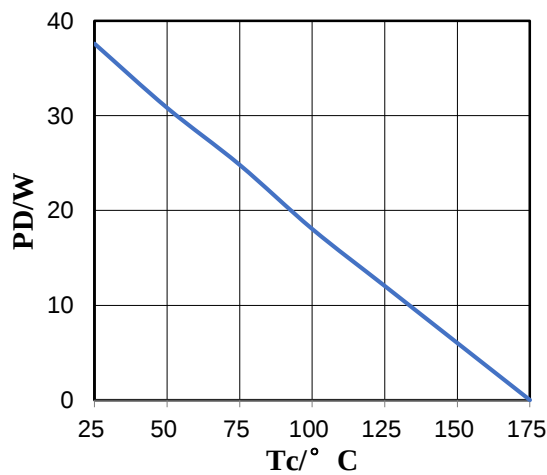
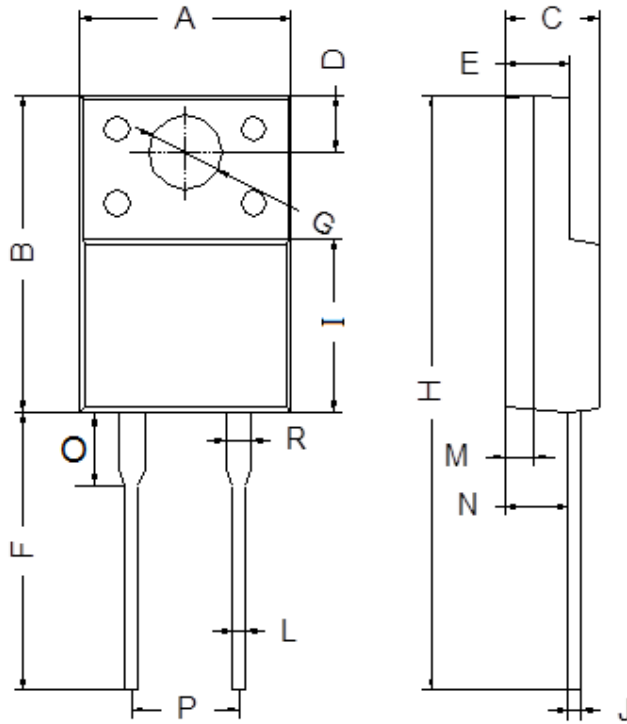


Fig 5 Power Dissipation

Package Outline Dimensions (Unit: mm)



ITO-220AC		
Dimension	Min.	Max.
A	9.90	10.30
B	14.80	15.20
C	4.30	4.70
D	2.50	2.90
E	2.80	3.30
F	13.00	13.60
G	3.10	3.30
H	28.00	28.60
I	7.90	8.90
J	0.40	0.60
L	0.50	0.75
M	1.30	1.50
N	2.60	2.80
O	2.60	3.10
P	5.00	5.20
R	1.10	1.30

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