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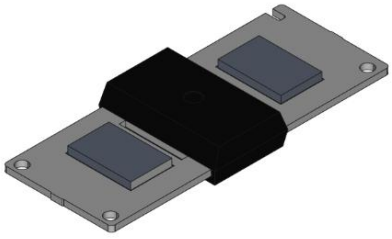
GF7145TC-1 Power Schottky Module Bypass Diode



QC3Q

Features

- Trench MOS Schottky technolog
- Low thermal resistance
- Lower forward voltage drop, low power loss
- Isolate Package design, ideal for heat dispersion
- High forward current capability
- Excellent anti-humidity
- Low profile package
- High forward surge capability
- All SMC parts are traceable to the wafer lot
- Additional electrical and life testing can be performed upon request

Mechanical Data

- Case: QC3Q
- Terminals: Copper
- High temperature soldering guaranteed
- Heated-tool welding 260˚C,10seconds
- Marking Code: GF7145TC-1

Maximum Ratings(limiting values, at 25 ˚C unless otherwise specified)

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	45	V
Average Rectified Forward Current	$I_{F(AV)}$	T_C=95˚C, In DC	70	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	450	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 70A, Pulse, T_J = 25 ˚C	0.47	0.52	V
Reverse Current*	I_{R1}	@V_R = rated V_R T_J = 25 ˚C	0.04	0.20	mA
	I_{R2}	@V_R = rated V_R T_J = 100 ˚C	-	60	mA
	I_{R3}	@V_R = rated V_R T_J = 125 ˚C	-	120	mA
Junction Capacitance	C_T	@V_R = 5V, T_C = 25˚C f_{SIG} = 1MHz	8776	-	pF

* Pulse width < 300 μs, duty cycle < 2%

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Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	IN DC Forward Mode, without reverse bias, t ≤1 h	-55 to +200	˚C
Storage Temperature	T_{stg}	-	-55 to +150	˚C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	-	1.5	˚C/W

Ratings and Characteristics Curve

Figure1 Typical Forward Characteristics

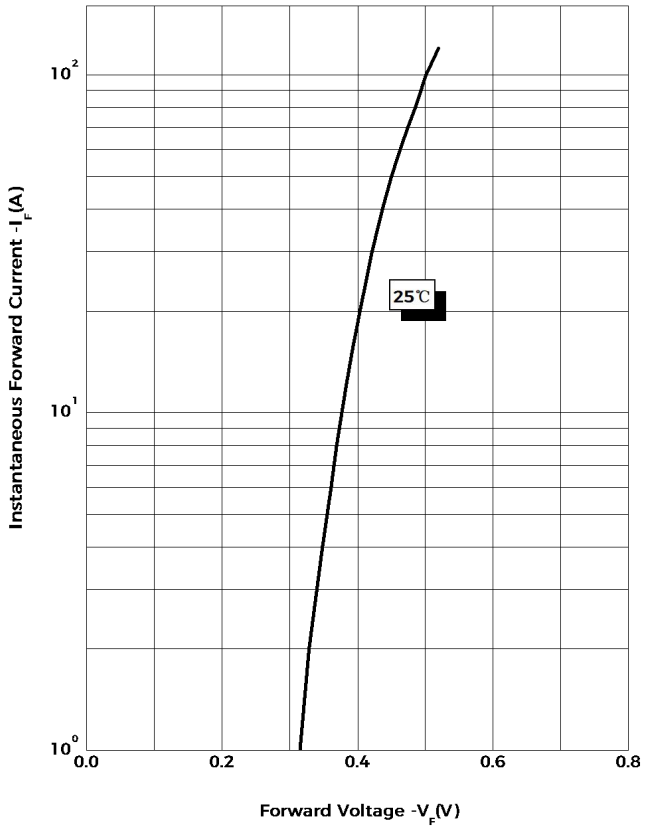


Figure 2 Typical Reverse Characteristics

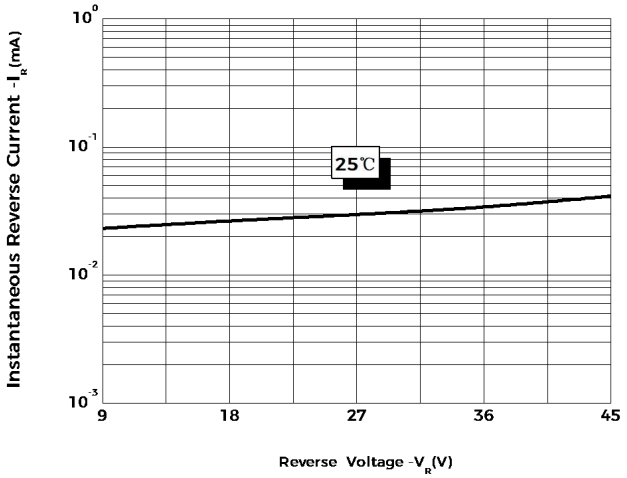
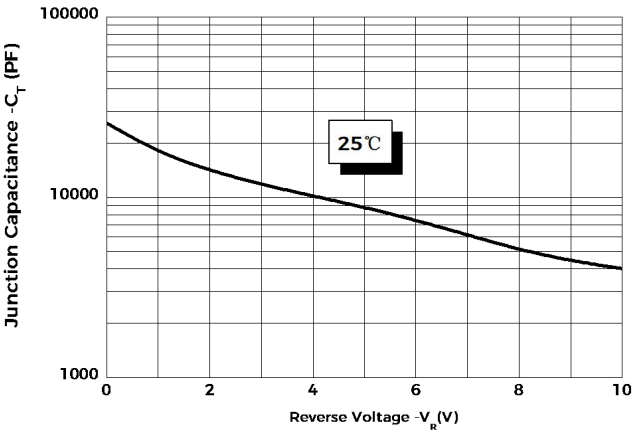


Figure 3 Typical Junction Capacitance



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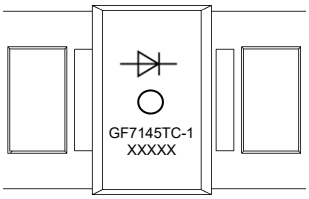
Ordering Information

Device	Package	Shipping
GF7145TC-1	QC3Q	32pcs/Tube

Marking Diagram



Where XXXXX is YYWWL

GF7145TC-1 = Marking Code
YY = Year
WW = Week
L = Lot Number

Order P/N	Mechanical Dimensions	Terminals	Solder Block Size/mm	Additional
GF7145TC-1-S1	Option 1	Tin Plated	8*4.5*1	None
GF7145TC-1-S3	Option 1	Tin Plated	8*4.5*1	Solder Block(Sn63Pb37 without Flux)
GF7145TC-1-S3-1.5	Option 1	Tin Plated	8*4.5*1	Solder Block(Sn63Pb37 with 1.5% Flux)
GF7145TC-1-S4-1.5	Option 2	Tin Plated	8*4.5*1	Solder Block(Sn63Pb37 with 1.5% Flux)

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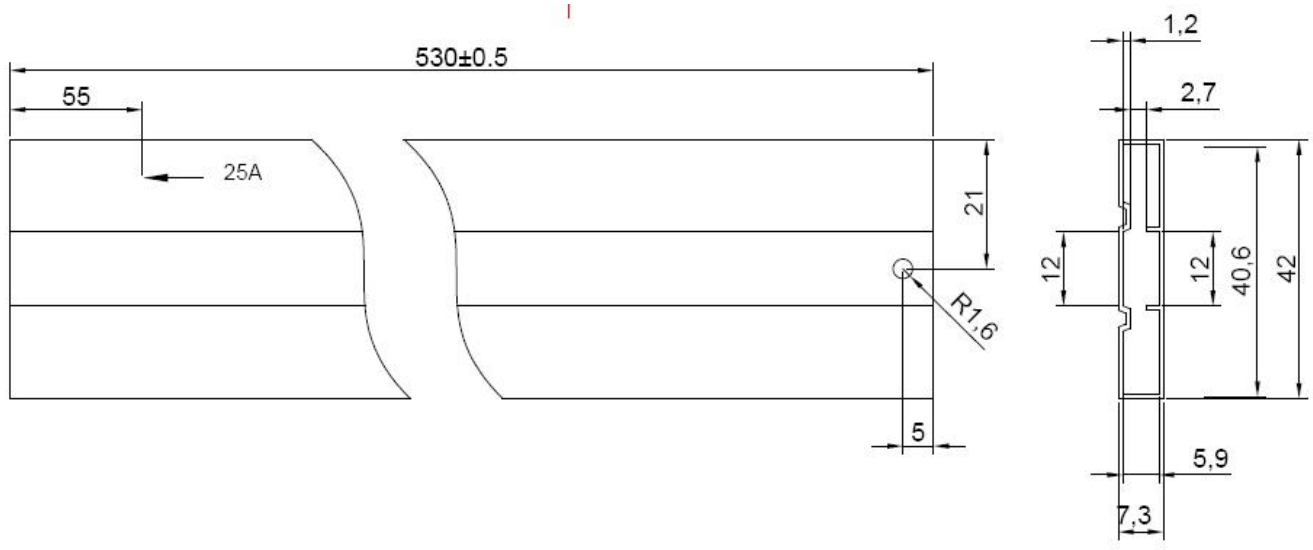
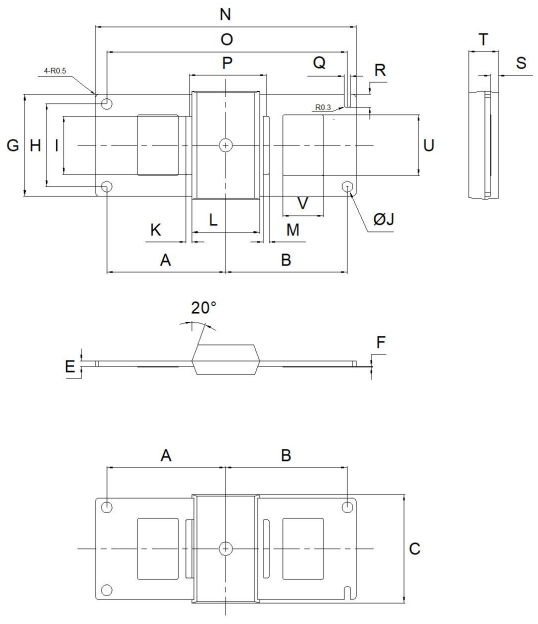
Tube Specification QC3Q (Millimeters)



Mechanical Dimensions Option 1 (Millimeters)



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A		17.54	
B		17.96	
C	15.90	16.00	16.10
E	0.77	0.80	0.83
F	0.08	0.10	0.12
G	14.90	15.00	15.10
H	12.15	12.20	12.25
I	8.55	8.60	8.65
J		1.60	1.70
K	0.87	0.90	0.93
L	10.00	10.10	10.20
M	0.87	0.90	0.93
N	38.40	38.50	38.60
O	35.45	35.50	35.55
P	11.32	11.42	11.52
Q		1.00	1.10
R		1.90	2.00
S	1.15	1.20	1.25
T	4.30	4.40	4.50
U	8.90	9.00	9.10
V	5.90	6.00	6.10

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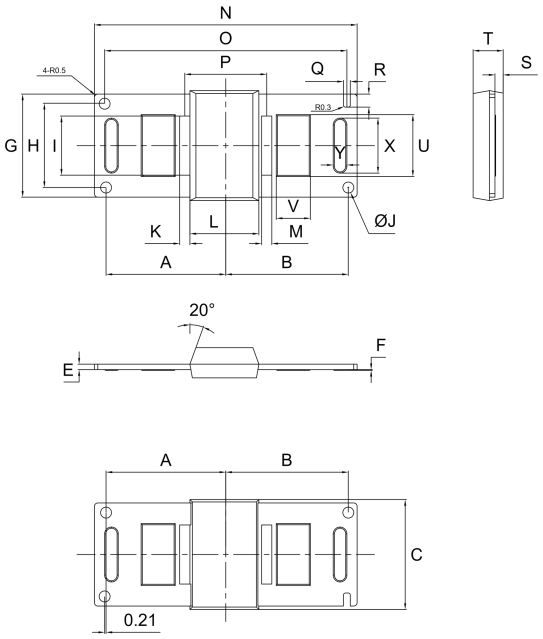
Mechanical Dimensions Option 2 (Millimeters)



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A		17.33	
B		18.17	
C	15.90	16.00	16.10
E	0.77	0.80	0.83
F	0.08	0.10	0.12
G	14.90	15.00	15.10
H	12.15	12.20	12.25
I	8.55	8.60	8.65
J		1.60	1.70
K		1.50	1.55
L	10.00	10.10	10.20
M		1.50	1.55
N	38.40	38.50	38.60
O	35.45	35.50	35.55
P	11.90	12.00	12.10
Q		1.00	1.10
R		1.90	2.00
S	1.15	1.20	1.25
T	4.30	4.40	4.50
U	8.75	9.00	9.25
V		5.15	5.25
X	7.90	8.00	8.10
Y	1.90	2.00	2.10

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