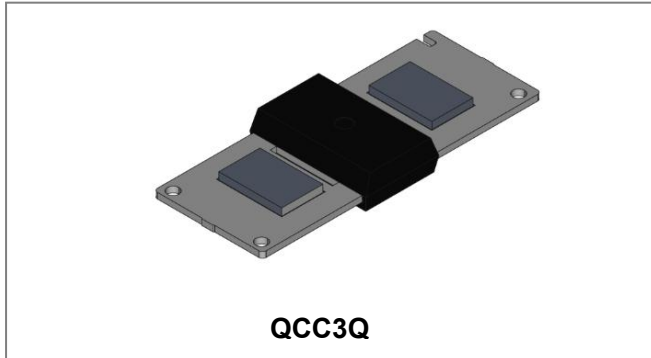


## GF5045TC-1 Power Schottky Module Bypass Diode



### Features

- Low thermal resistance
- Lower forward voltage drop, low power loss
- Isolate Package design, ideal for heat dispersion
- High forward current capability
- Trench MOS Schottky technology
- 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: GF5045TC-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	$I_F (AV)$	$T_C = 111^\circ C$ , In DC	50	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*	$V_{F1}$	@ 50A, Pulse, $T_J = 25^\circ C$	0.46	0.52	V
Reverse Current*	$I_{R1}$	@ $V_R = \text{rated } V_R$ , $T_J = 25^\circ C$	0.05	0.5	mA
Junction Capacitance	$C_T$	@ $V_R = 5V$ , $T_C = 25^\circ C$ $f_{SIG} = 1MHz$	8.5	-	nF

\* Pulse width < 300  $\mu s$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	IN DC Forward Mode, without reverse bias, $t \leq 1$ 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**

Figure 1 Typical Forward Characteristics

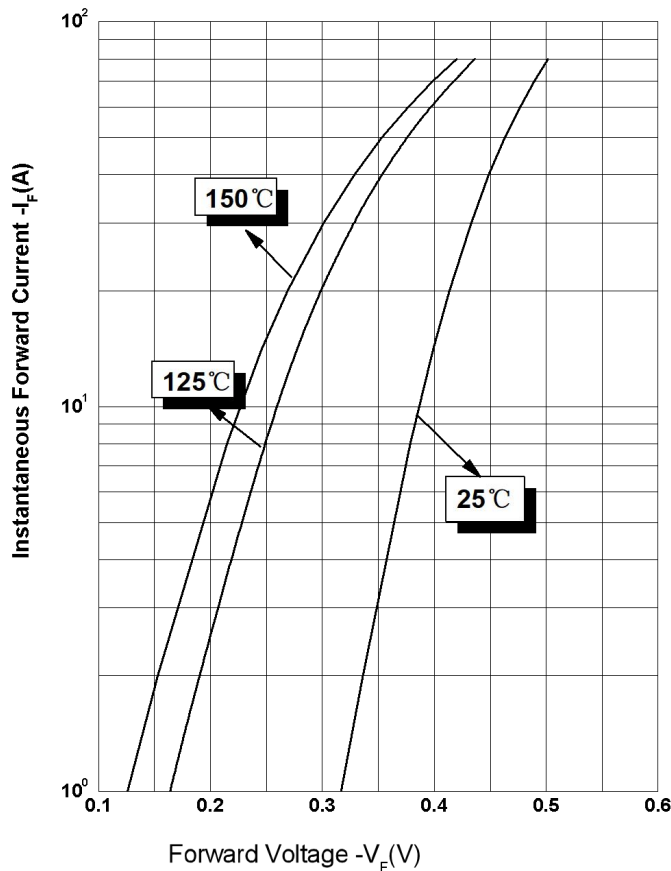


Figure 2 Typical Reverse Characteristics

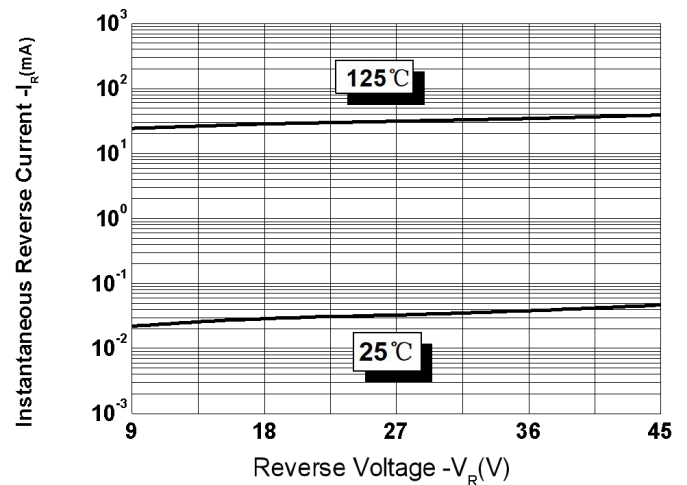
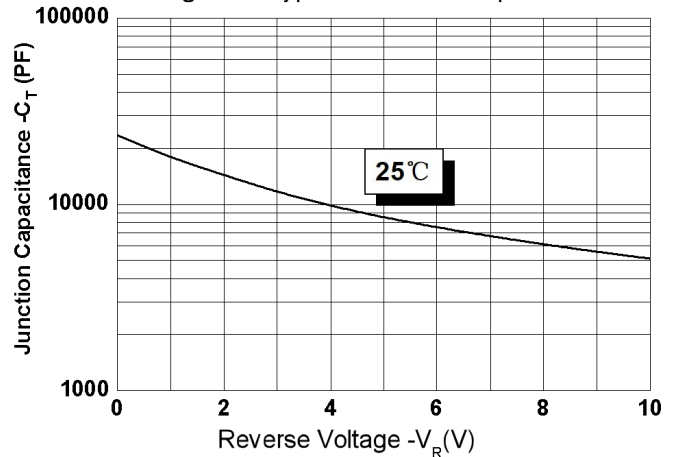


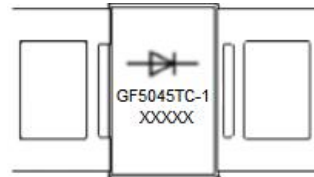
Figure 3 Typical Junction Capacitance



**Ordering Information**

Device	Package	Shipping
GF5045TC-1	QC3Q	32pcs/Tube

**Marking Diagram**



Where XXXXX is YYWWL

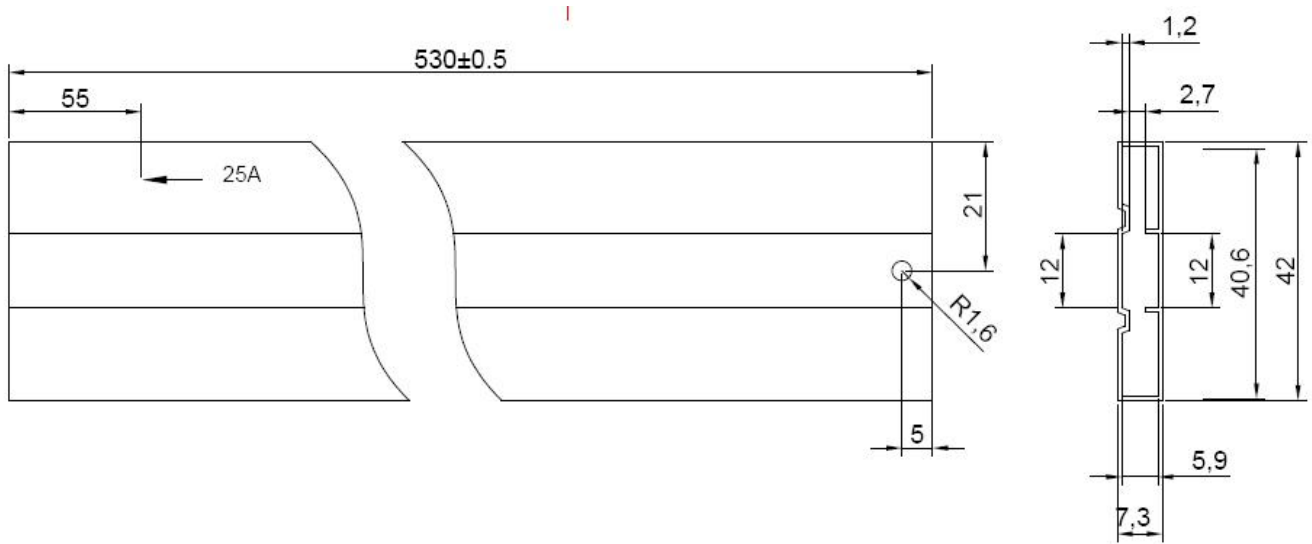
GF5045TC-1 = Marking Code  
YY = Year  
WW = Week  
L = Lot Number

Order P/N	Terminals	Additional
GF5045TC-1-S1	Tin Plated	None
GF5045TC-1-S2	Tin Plated	Solder Paste
GF5045TC-1-S3	Tin Plated	Solder Block

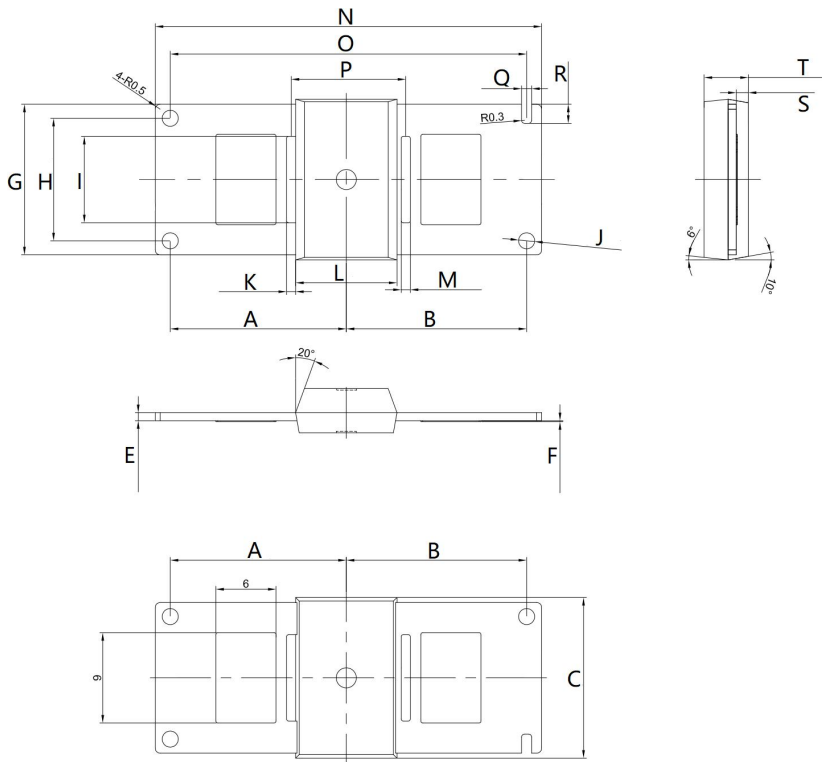


Solder Paste

**Tube Specification QC3Q (Millimeters)**



**Mechanical Dimensions QC3Q (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	0.86	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

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