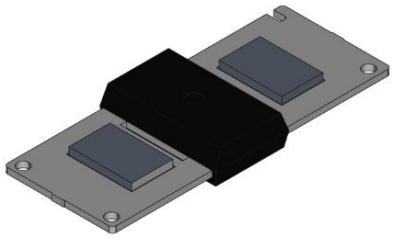
Technical Data
Data Sheet N2640, Rev.-

GF4045TS-1 Power Schottky Module Bypass Diode



QC3Q

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
- High temperature soldering guaranteed
- Heated-tool welding 260℃,10 seconds
- Marking Code: GF4045TS-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	$I_{F(AV)}$	Tc=110°C, In DC	40	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse, T_J = 25 °C	350	A
Rating for fusing (t<8.3ms)	I^2t	T_J = 25 °C	500	A^2sec

Electrical Characteristics

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 40A, Pulse, T_J = 25 °C	0.48	0.52	V
Reverse Current*	I_{R1}	@V_R = rated V_R T_J = 25 °C	0.03	0.20	mA
	I_{R2}	@V_R = rated V_R T_J = 100 °C	-	12	mA
	I_{R3}	@V_R = rated V_R T_J = 125 °C	26	55	mA
Junction Capacitance	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	5840	-	pF

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

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 Curves

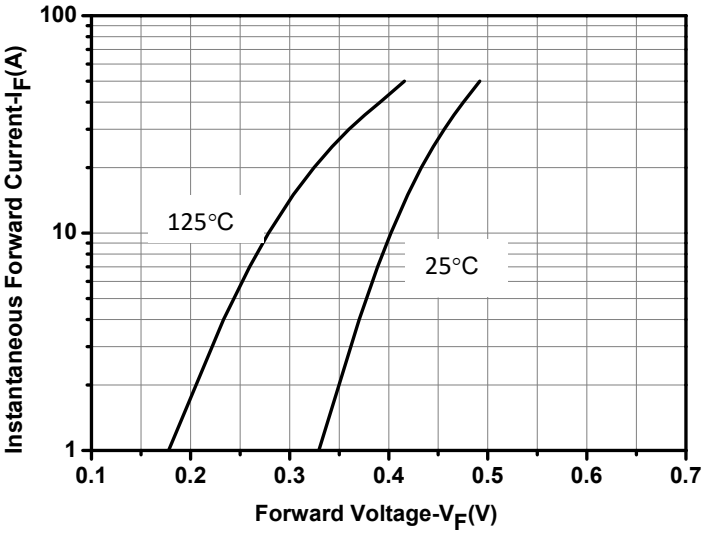


Fig.1-Typical Forward Voltage Characteristics

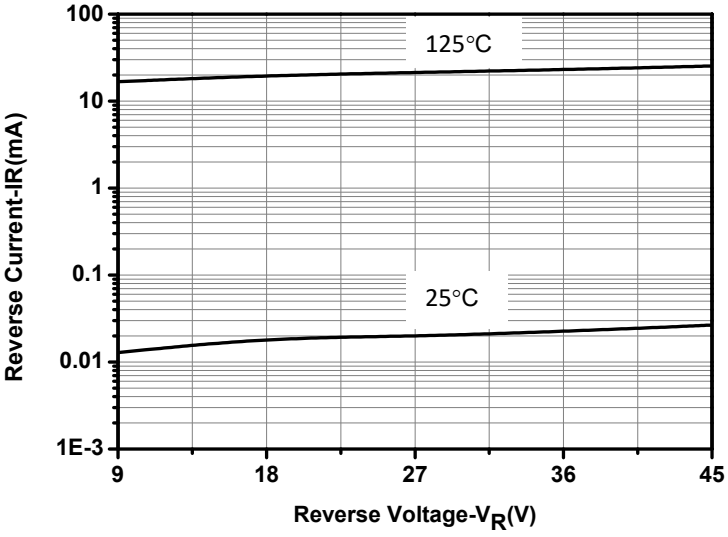


Fig.2-Typical Reverse Characteristics

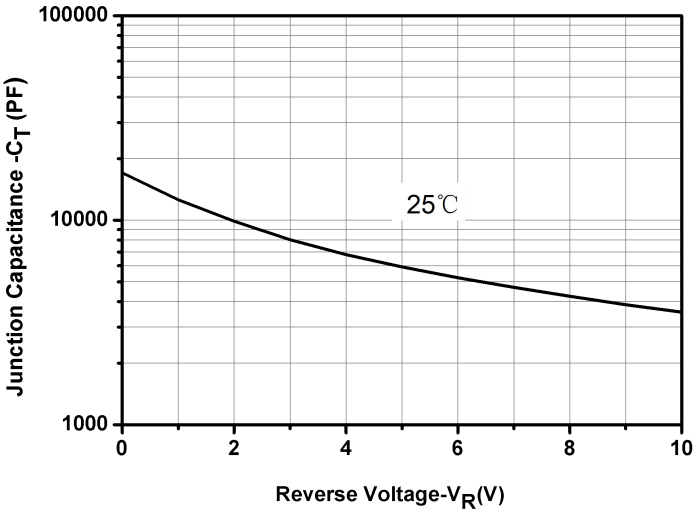


Fig.3-Capacitance vs. Reverse Voltage

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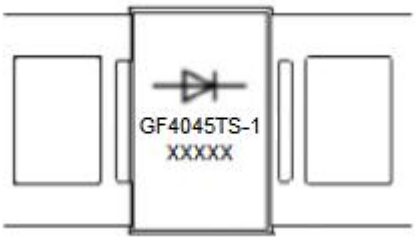
Ordering Information

Device	Package	Shipping
GF4045TS-1	QC3Q	32pcs/Tube

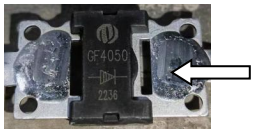
Marking Diagram



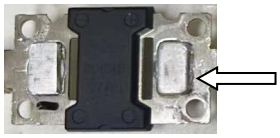
Where XXXXX is YYWWL

GF4045TS-1 = Device Code
YY = Year
WW = Week
L = Lot Number

Order P/N	Terminals	Additional
GF4045TS-1-S1	Tin Plated	None
GF4045TS-1-S2	Tin Plated	Solder Paste
GF4045TS-1-S3	Tin Plated	Solder Block
GF4045TS-1-N1	Nickel Plated	None
GF4045TS-1-N2	Nickel Plated	Solder Paste
GF4045TS-1-N3	Nickel Plated	Solder Block

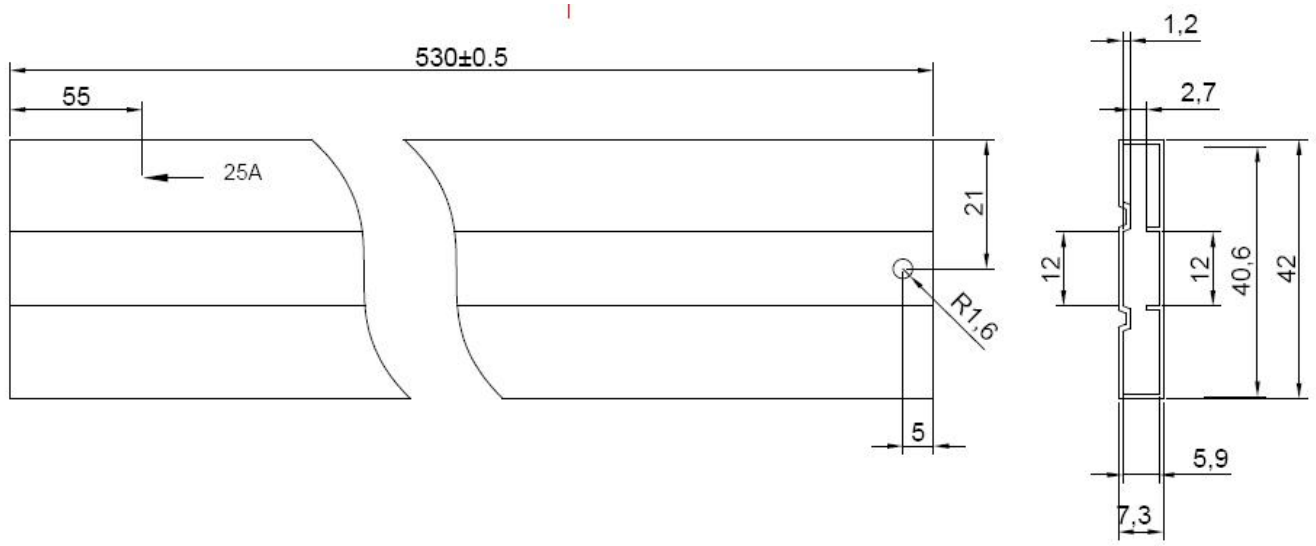


Solder Paste

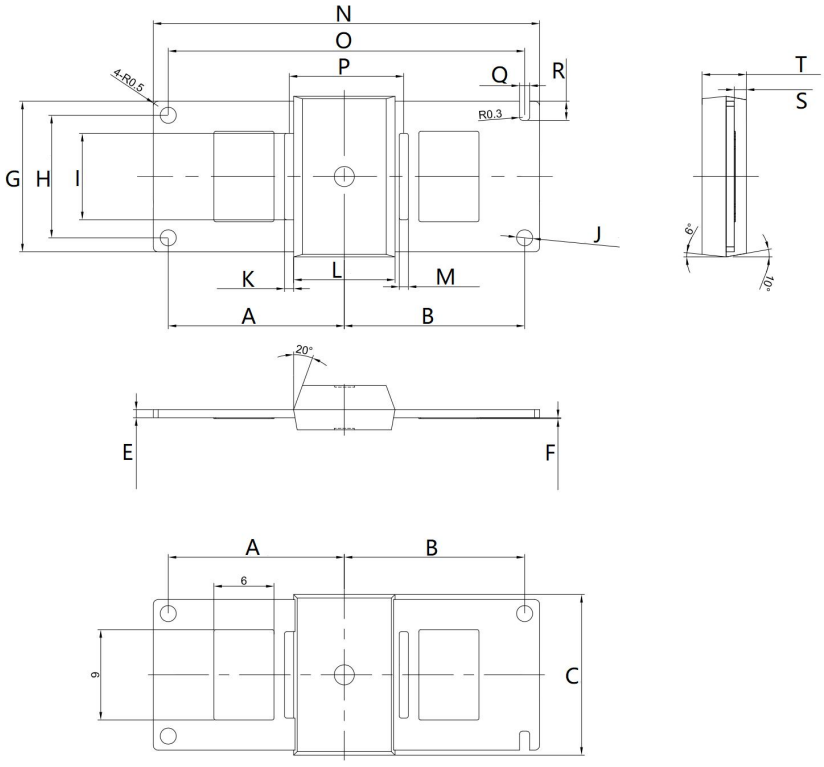


Solder Block

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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