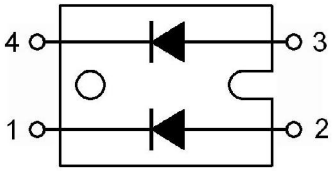
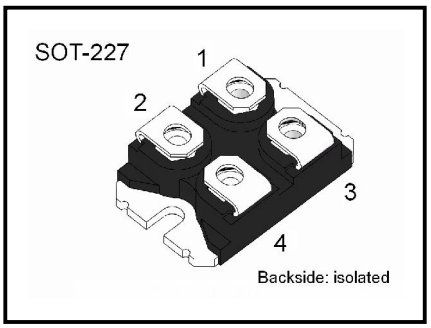
LGE3D80120T

2x40A 1200V Silicon Schottky Diode Module

Applications

- Solar inverter
- Uninterruptible power supply (UPS)
- Welding equipment
- Switched-mode power supplies
- Medical equipment
- High speed rectiier





Features

- Ultra fast switching
- Zero reverse recovery
- Zero forward recovery
- Temperature independent switching behavior
- Positive temperature coeficient of forward voltage

Absolute Maximum Ratings (Per terminal / T_C = 25°C unless otherwise specified)

Parameter	Symbol	Conditions		Value	Units
Repetitive peak reverse voltage	V_{RRM}			1200	V
DC Blocking Voltage	V_{DC}			1200	V
Continuous forward current	I_F	T_C = 25℃ T_C = 80℃ T_C = 100℃		128 88 41	A
Repetitive forward surge current	I_{FRM}	t_p = 10ms half sine wave	T_C = 25℃ T_C = 100℃	161 91	A
RMS current	I_{RMS}			100	A
Non repetitive forward surge current	I_{FSM}	t_p = 10ms half sine wave	T_C = 25℃ T_C = 100℃	247 245	A
Power dissipation	P_{tot}		T_C = 25℃ T_C = 150℃	337 56	W
Junction temperature	T_j			-40 ~ +175	℃
Storage temperature	T_{stg}			-40 ~ +150	℃
Isolation breakdown voltage	V_{Isol}	50/60Hz RMS ,I_{ISOL} ≤1 mA		2500	V
Mounting torque Terminal connection torque	M_d	M4		1.1-1.5 9-13	Nm lb.in

Thermal Characteristic (Per terminal / T_C = 25°C unless otherwise specified)

Parameter	Symbol	Conditions	Value	Units
Thermal resistance junction-case	$R_{\theta JC}$		0.6	°C/W
Thermal resistance junction-heatsink	$R_{\theta JH}$	with heatsink compound	0.72	°C/W

Electrical Characteristics (Per terminal / T_C = 25°C unless otherwise specified)

Parameter	Symbol	Conditions		Min.	Typ	Max.	Units
Forward voltage drop	V_F	I_F = 40A	T_j = 25℃			1.8	V
			T_j = 175℃			3.0	
Reverse leakage current	I_R	V_R=1200V	T_j = 25℃			400	μA
			T_j = 175℃			800	
Total Capacitive Charge	Q_C	V_R=800V, T_j = 25℃			200		nC
Total Capacitance	C	V_R=0V,	T_j = 25℃ f=1MHz		3000		pF
		V_R=400V,			185		
		V_R=800V,			135		
Capacitance Stored Energy	E_C	V_R=800V,			36		μJ

Typical Characteristics

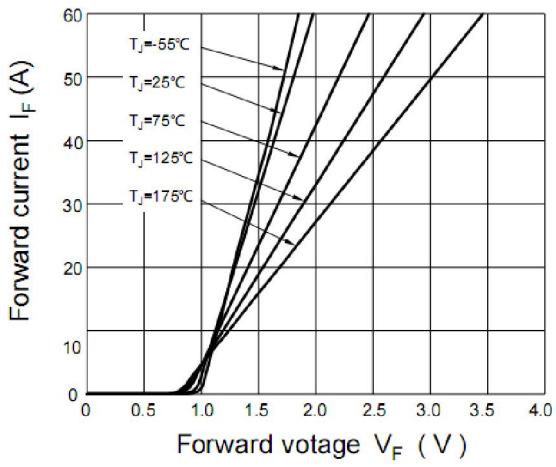


Figure 1. Forward characteristics

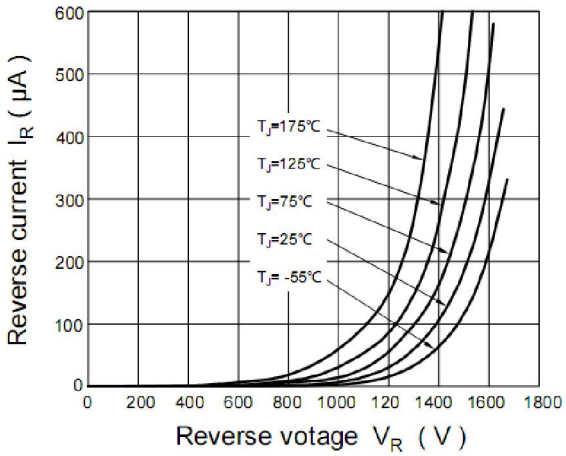


Figure 2. Reverse Characteristics

Typical Characteristics

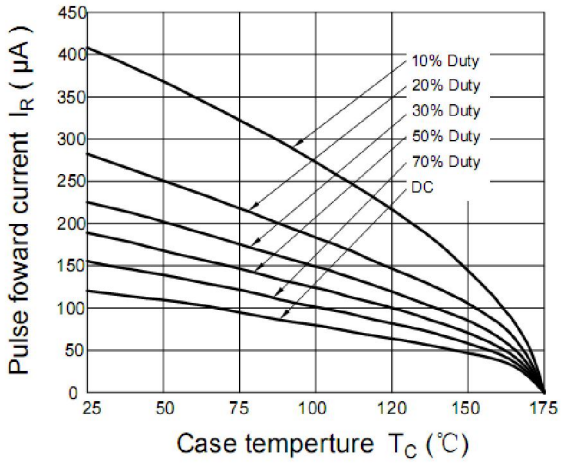


Figure 3. Current Derating

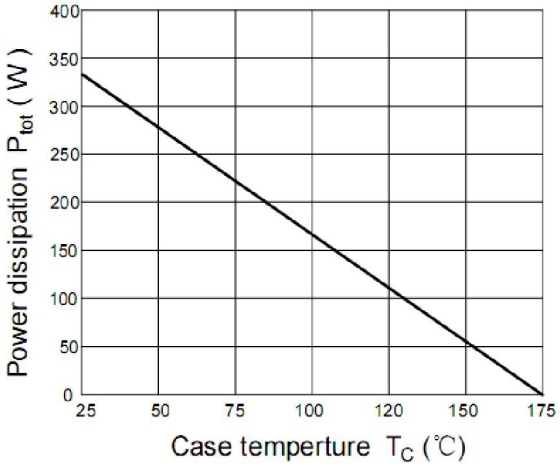


Figure 4. Power Derating

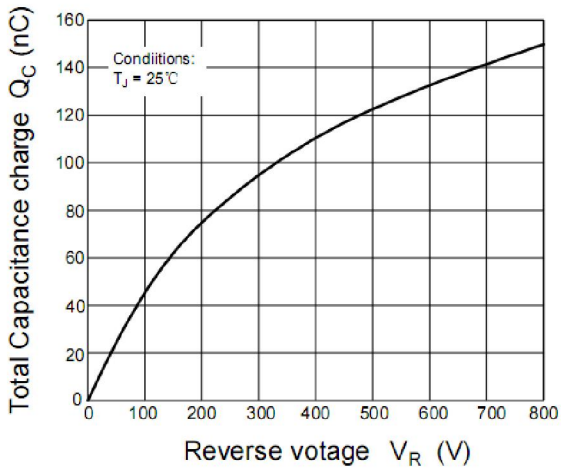


Figure 5. Total Capacitance charge vs. reverse voltage

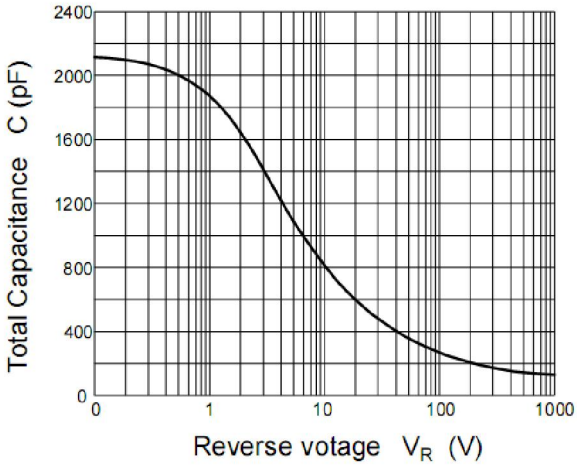


Figure 6. Capacitance vs. reverse voltage

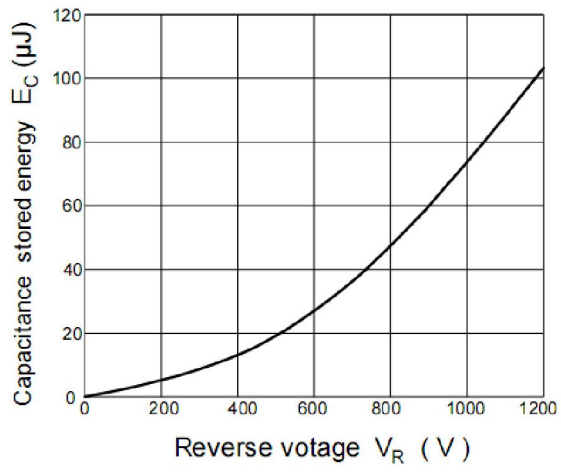


Figure 7. Capacitance stored energy

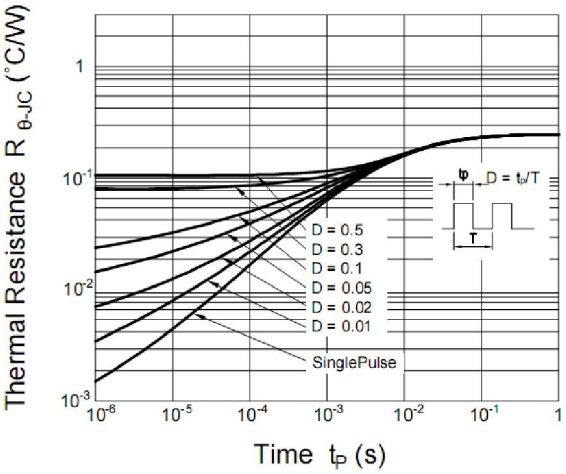


Figure 8. Transient thermal impedance

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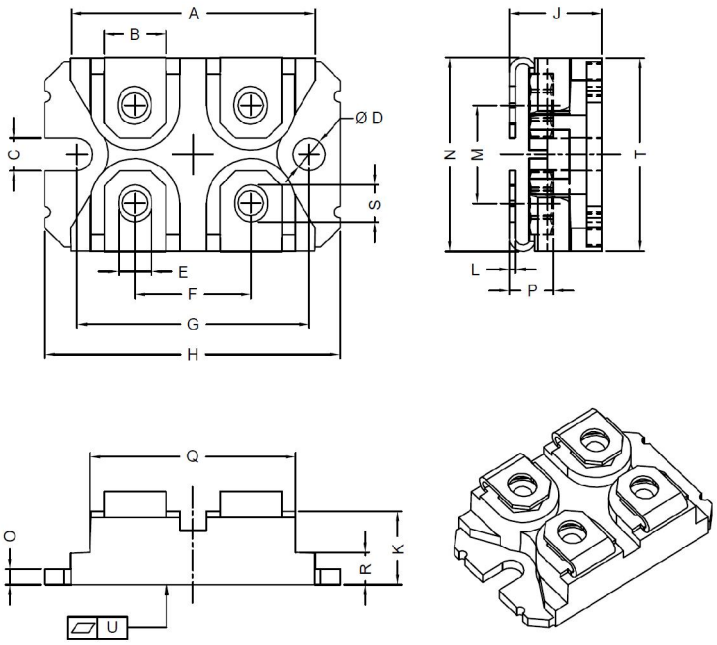
Package Dimensions



DIM	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	31.40	31.80	1.236	1.252
B	7.70	8.10	0.303	0.319
C	4.10	4.30	0.161	0.169
D	4.10	4.30	0.161	0.169
E	4.10	4.30	0.161	0.169
F	14.90	15.10	0.587	0.594
G	30.10	30.30	1.185	1.193
H	38.00	38.40	1.496	1.512
J	11.70	12.60	0.461	0.496
K	9.30	9.70	0.366	0.382
L	0.76	0.84	0.030	0.033
M	12.60	12.80	0.496	0.504
N	24.40	25.40	0.961	1.000
O	1.90	2.10	0.075	0.083
P	4.95	5.95	0.195	0.234
Q	26.50	26.90	1.043	1.059
R	3.90	4.40	0.154	0.173
S	4.60	5.20	0.181	0.205
T	24.80	25.20	0.976	0.992
U	-0.05	0.10	-0.002	0.004