

Voltage Ratings

Part number	120LQ045
V _R Max. DC Reverse Voltage (V)	45
V _{RWM} Max. Working Peak Reverse Voltage (V)	

Absolute Maximum Ratings

Parameters	Limits	Units	Conditions
I _{F(AV)} Max. Average Forward Current See Fig. 5	120	A	50% duty cycle @ T _C = 64°C, square waveform
I _{FSM} Max. Peak One Cycle Non - Repetitive Surge Current	800	A	@ t _p = 8.3 ms half-sine

Electrical Specifications

Parameters	Limits	Units	Conditions
V _{FM} Max. Forward Voltage Drop See Fig. 1①	0.73	V	@ 30A
	0.91	V	@ 60A
	1.25	V	@ 120A
	0.57	V	@ 30A
	0.71	V	@ 60A
	0.99	V	@ 120A
	0.51	V	@ 30A
	0.70	V	@ 60A
I _{RM} Max. Reverse Leakage Current See Fig. 2①	8.0	mA	T _J = 25°C
	14	mA	T _J = 100°C
	75	mA	T _J = 125°C
C _T Max. Junction Capacitance	4500	pF	V _R = 5V _{DC} (1MHz, 25°C) ②
L _S Typical Series Inductance	5.9	nH	Measured from center of cathode pad to center of anode pad

Thermal-Mechanical Specifications

Parameters	Limits	Units	Conditions
T _J Max. Junction Temperature Range	-55 to 150	°C	
T _{stg} Max. Storage Temperature Range	-55 to 150	°C	
R _{thJC} Max. Thermal Resistance, Junction to Case	0.8	°C/W	DC operation See Fig. 4
wt Weight (Typical)	2.6	g	
Die Size (Typical)	275X275	mils	
Case Style	SMD-1		

① Pulse Width < 300μs, Duty Cycle < 2%

② Pins 2 and 3 externally tied together

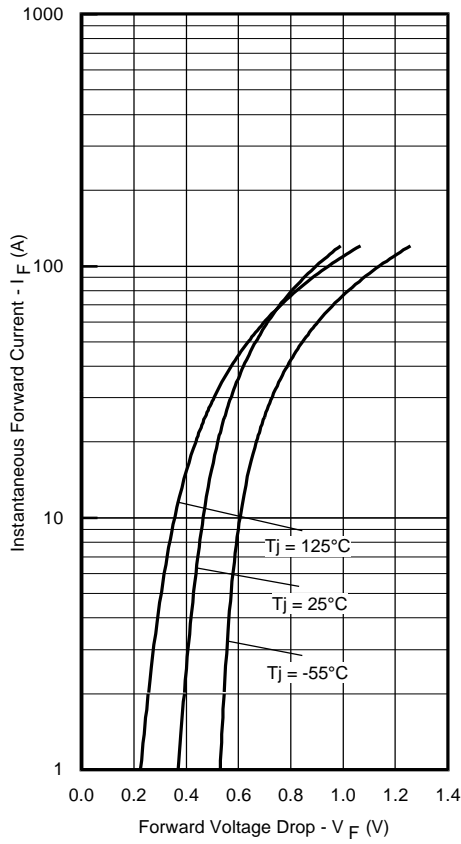


Fig. 1 - Max. Forward Voltage Drop Characteristics

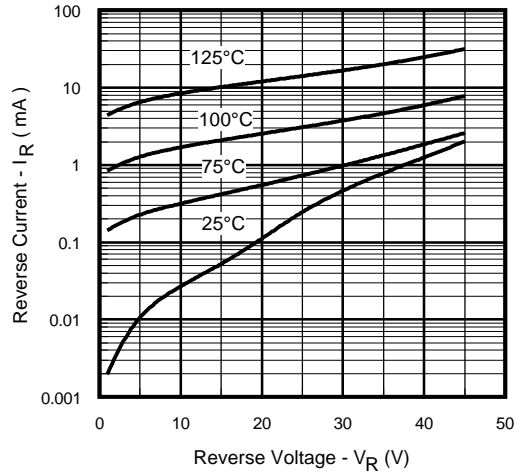


Fig. 2 - Typical Values of Reverse Current Vs. Reverse Voltage

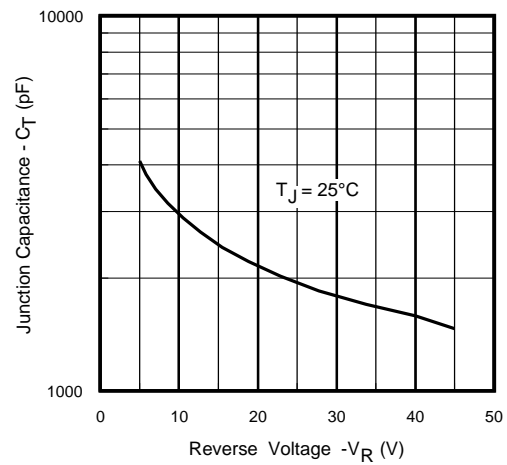


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

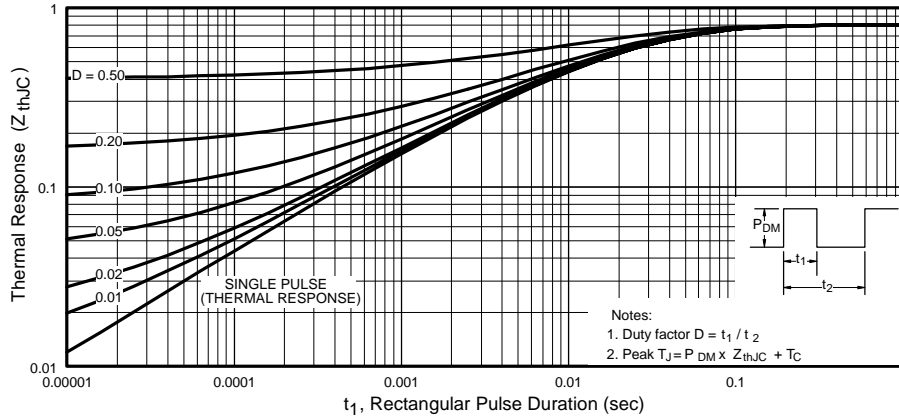


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics

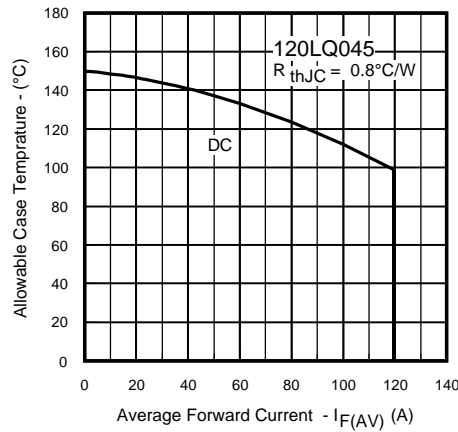


Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current