

$V_R = 650\text{ V}$
 $I_F = 6\text{ A (}T_C=150^\circ\text{C)}$
 $Q_C = 15\text{ nC (}V_R=400\text{V)}$

Features

- Zero Forward/Reverse Recovery
- High Blocking Voltage
- High Frequency Operation
- Positive Temperature Coefficient on V_F
- Temperature Independent Switching Behavior
- 100% avalanche tested

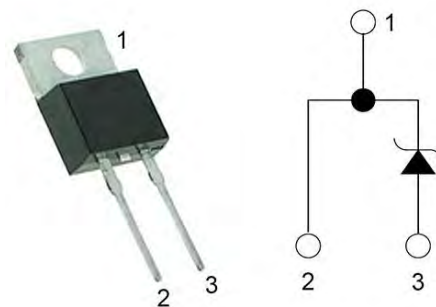
Benefits

- High System Efficiency
- Parallel Device Convenience
- High Temperature Application
- High Frequency Operation
- Hard Switching & High Reliability
- Environmental Protection

Applications

- Switch Mode Power Supplies
- Solar Inverters
- DC/DC converters
- Uninterruptable power supplies

TO-220-2L



Maximum Ratings ($T_C=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}		650	V
Peak Reverse Surge Voltage	V_{RSM}		650	V
DC Blocking Voltage	V_R		650	V
Continuous Forward Current	I_F	$T_C=25^\circ\text{C}$ $T_C=135^\circ\text{C}$ $T_C=150^\circ\text{C}$	19 8 6	A
Non repetitive Forward Surge Current	I_{FSM}	$T_C = 25^\circ\text{C}$, $t_p=10\text{ ms}$, Half Sine Pulse $T_C = 110^\circ\text{C}$, $t_p=10\text{ ms}$, Half Sine Pulse $T_C = 25^\circ\text{C}$, $t_p=10\ \mu\text{s}$, Square	40 35 300	A
Repetitive peak Forward Surge Current	I_{FRM}	$T_C = 25^\circ\text{C}$, $t_p=10\text{ ms}$, Freq = 0.1Hz, 100 cycles, Half Sine Pulse $T_C = 110^\circ\text{C}$, $t_p=10\text{ ms}$, Freq = 0.1Hz, 100 cycles, Half Sine Pulse	35 30	A
Total power dissipation	P_D	$T_C=25^\circ\text{C}$	68	W
Operating Junction Temperature	T_J		-55 to 175	$^\circ\text{C}$
Storage Temperature	T_{STG}		-55 to 175	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

Electrical Characteristics

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
DC Blocking Voltage	V_{DC}	$I_R = 250\mu A, T_J = 25^\circ C$	650			V
Forward Voltage	V_F	$I_F = 6A, T_J = 25^\circ C$		1.45	1.8	V
		$I_F = 6A, T_J = 125^\circ C$		1.6		
		$I_F = 6A, T_J = 175^\circ C$		1.75		
Reverse Current	I_R	$V_R = 650V, T_J = 25^\circ C$		7	80	μA
		$V_R = 650V, T_J = 125^\circ C$		38		
		$V_R = 650V, T_J = 175^\circ C$		108		
Total Capacitive Charge	Q_C	$V_R = 400V$		15		nC
Total Capacitance	C	$V_R = 1V, T_J = 25^\circ C,$ Freq = 1MHz		230		pF
		$V_R = 200V, T_J = 25^\circ C,$ Freq = 1MHz		33		
		$V_R = 400V, T_J = 25^\circ C,$ Freq = 1MHz		24		

Thermal Characteristics

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Thermal Resistance	$R_{th(j-c)}$	junction-case		1.8		$^\circ C/W$

Typical Electrical Curves

Figure 1. Forward Characteristics

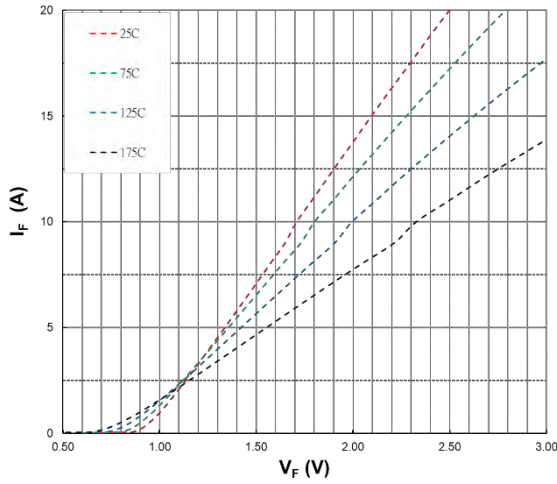


Figure 2. Forward Characteristics

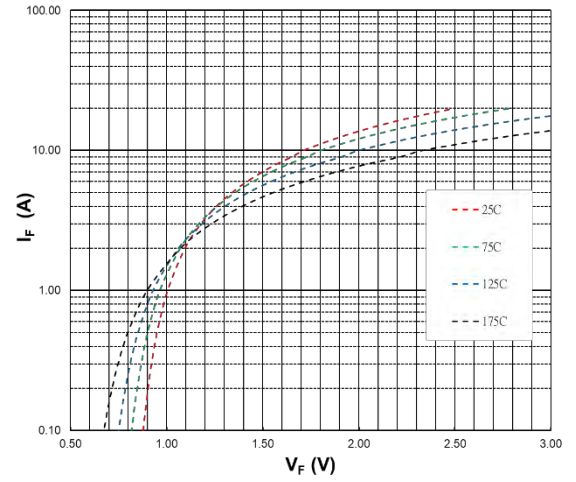


Figure 3. Reverse Characteristics

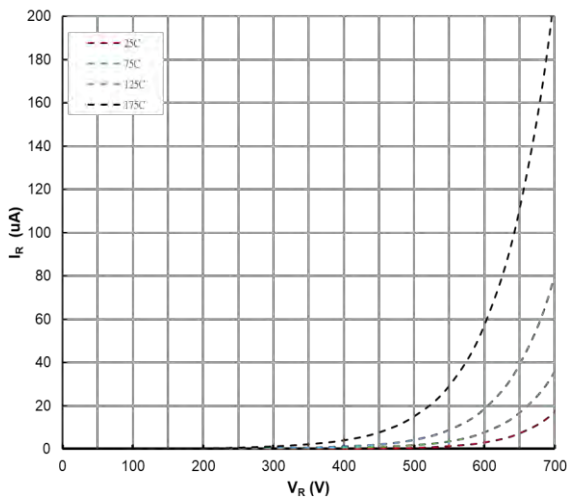


Figure 4. Power Derating

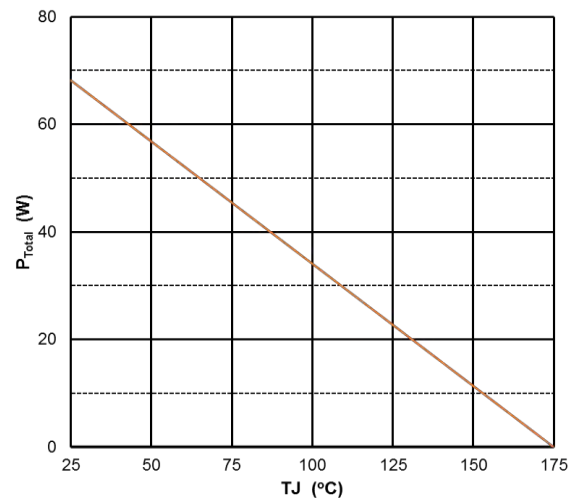


Figure 5. Capacitance vs Reverse Voltage

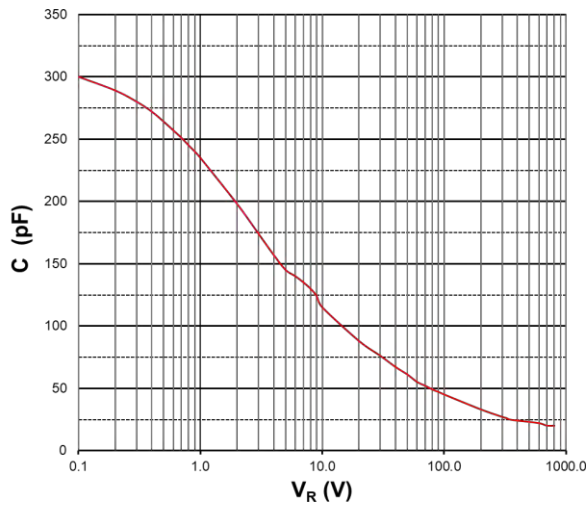
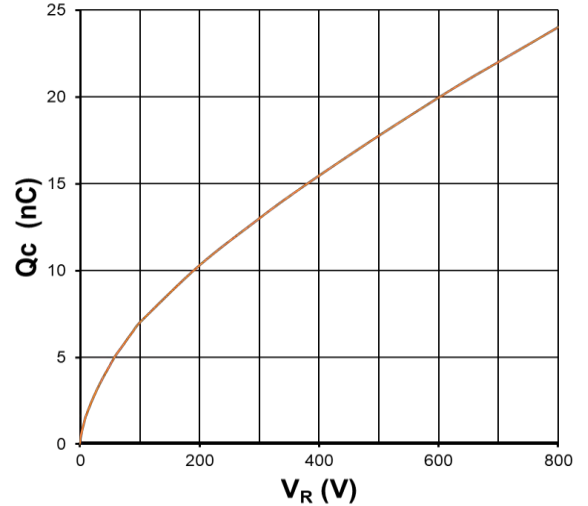
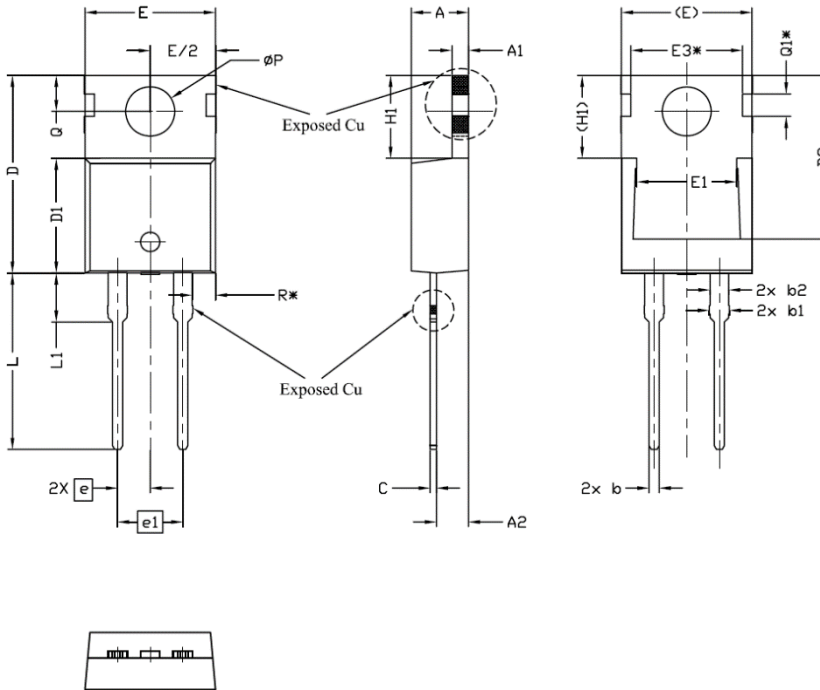


Figure 6. Recovery Charge vs Reverse Voltage



Package Dimensions

(TO-220-2L Package)



SYMBOL	DIMENSIONS			NOTES
	MIN.	NOM.	MAX.	
A	4.24	4.44	4.64	
A1	1.15	1.27	1.40	
A2	2.30	2.48	2.70	
b	0.70	0.80	0.90	
b1	1.20	1.55	1.75	
b2	1.20	1.45	1.70	
c	0.40	0.50	0.60	
D	14.70	15.37	16.00	4
D1	8.82	8.92	9.02	
D2	12.43	12.73	12.83	5
E	9.96	10.16	10.36	4,5
E1	6.86	7.77	8.89	5
E3*	8.70REF.			
e	2.54BSC			
e1	5.08BSC			
H1	6.30	6.45	6.60	5,6
L	13.47	13.72	13.97	
L1	3.60	3.80	4.00	
ØP	3.75	3.84	3.93	
Q	2.60	2.80	3.00	
Q1*	1.73REF.			
R*	1.82REF.			

Note:

1. Package Reference: JEDEC TO220, Variation AB.
2. All Dimensions Are In mm.
3. Slot Required, Notch May Be Rounded
4. Dimension D & E Do Not Include Mold Flash. Mold Flash Shall Not Exceed 0.127mm Pre Side. These Dimensions Are Measured At The Outermost Extreme Of The Plastic Body.
5. Thermal Pad Contour Optional Within Dimensions E, H1, D2 & E1.
6. Dimension E2 & H1 Define A Zone Where Stamping And Singulation Irregularities Are Allowed.
7. "*" is reference .

Part No.	Marking	Package	Packing	M.O.Q
LGE3D06065A	LGE3D06065A	TO-220-2L	50PCS/Tube	500PCS