

**FEATURES AND BENEFITS**

- HIGH VOLTAGE BREAKOVER DIODE:  
 $V_{BO\ MIN} = 195$  or  $215\ V$
- HIGH HOLDING CURRENT STRUCTURE :  
 $I_H > 50\ mA$
- HIGH PEAK CURRENT PULSE CAPABILITY:  
 $I_{TRM} = 50\ A$
- DIRECT OPERATION ON 220/240 VAC MAINS CIRCUITS.

**DESCRIPTION**

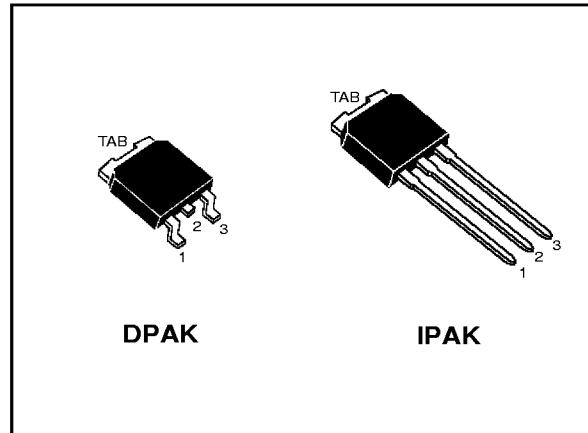
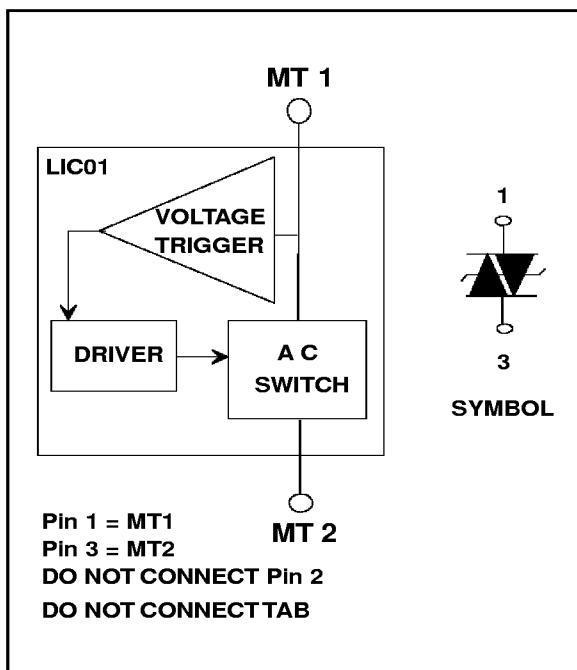
The LIC01 is a high performance planar diffused technology device suitable for high surge current operation in rugged environmental conditions.

When the voltage across the device reaches the break over voltage, it decreases from the off state to the low voltage on-state. When the current through the circuit drops below the holding current  $I_H$ , the device comes back to the off state.

LIC01 has been especially designed for high voltage pulse generation circuits such as light ignitors for :

- . High pressure sodium lamp
- . Lamp flashing circuit
- . Metal Halid lamp

DEVICE TYPE	BREAKDOWN VOLTAGE RANGE
LIC01-195	$V_{BO\ min}: 195V$ $V_{BO\ max}: 230V$
LIC01-215	$V_{BO\ min}: 215V$ $V_{BO\ max}: 255V$

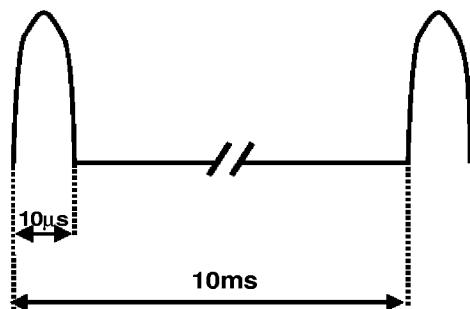
**FUNCTIONAL DIAGRAM**

## LIC01-SERIES

### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit	
I <sub>TRM</sub>	Repetitive surge peak on state current for thyristor	tp = 10μs ( note 1)	± 50	A
I <sub>T(RMS)</sub>	RMS on state current	T <sub>amb</sub> = 90°C	1.2	A
di/dt	Critical rate of rise on state current		80	A/μs
V <sub>DRM</sub>	Repetitive peak off state voltage	T <sub>j</sub> = 125°C	± 180	V
T <sub>stg</sub>	Storage junction temperature range		- 40 to + 125	°C
T <sub>j</sub>	Operating junction temperature range		-20 to 125	°C
T <sub>L</sub>	Maximum lead temperature for soldering during 10s		260	°C

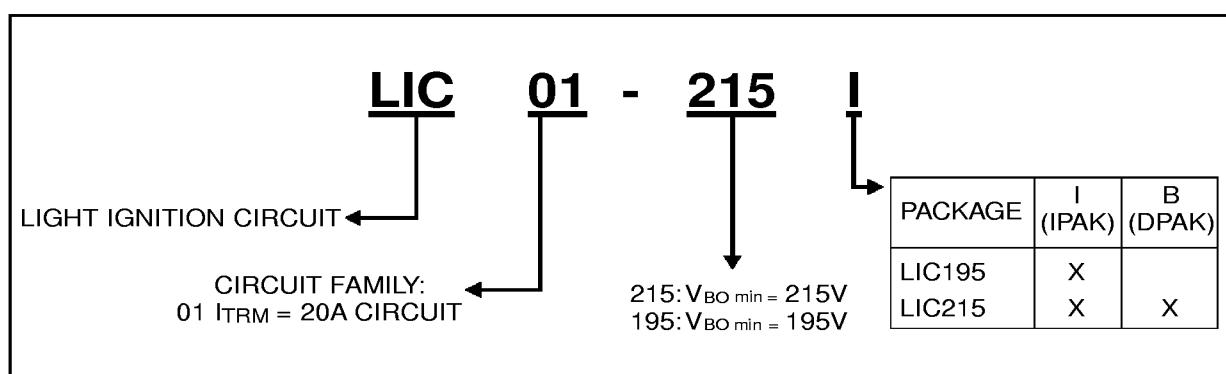
Note 1 : Test current waveform



### THERMAL RESISTANCE

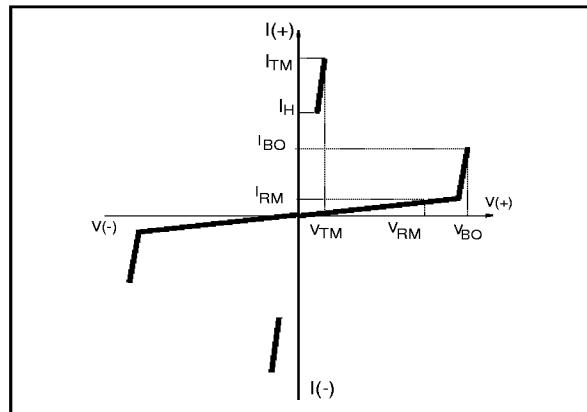
Symbol	Parameter	Value	Unit
R <sub>th(j-a)</sub>	Junction to ambient	100	°C/W

### ORDERING INFORMATION



## ELECTRICAL CHARACTERISTICS

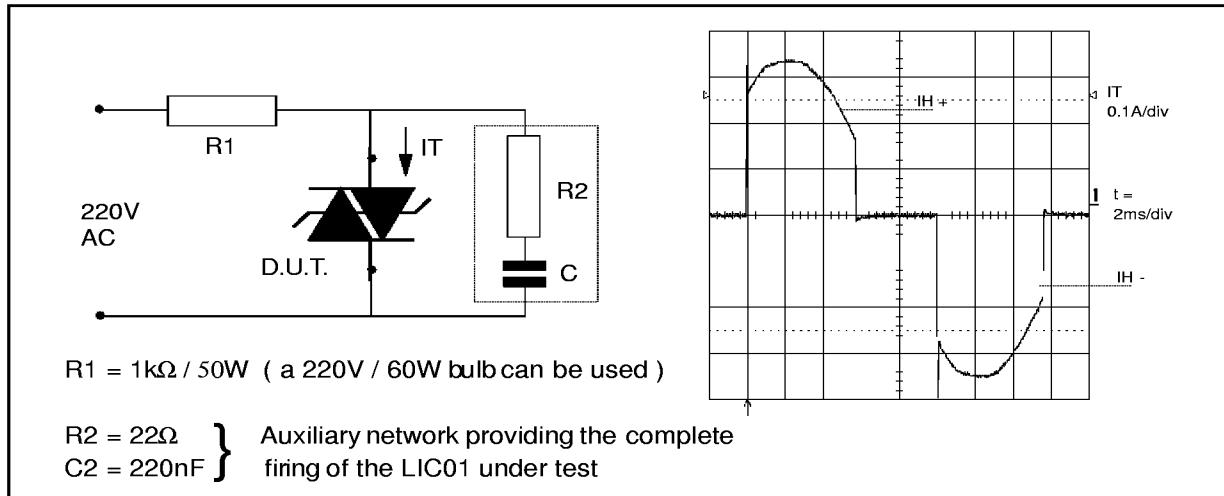
Symbol	Parameters
$V_{RM}$	Stand-off voltage
$V_{TM}$	On-state voltage
$V_{BO}$	Breakover voltage
$I_{TM}$	On-state current
$I_H$	Holding current
$I_{BO}$	Breakover current
$I_{RM}$	Leakage current



## ELECTRICAL PARAMETERS

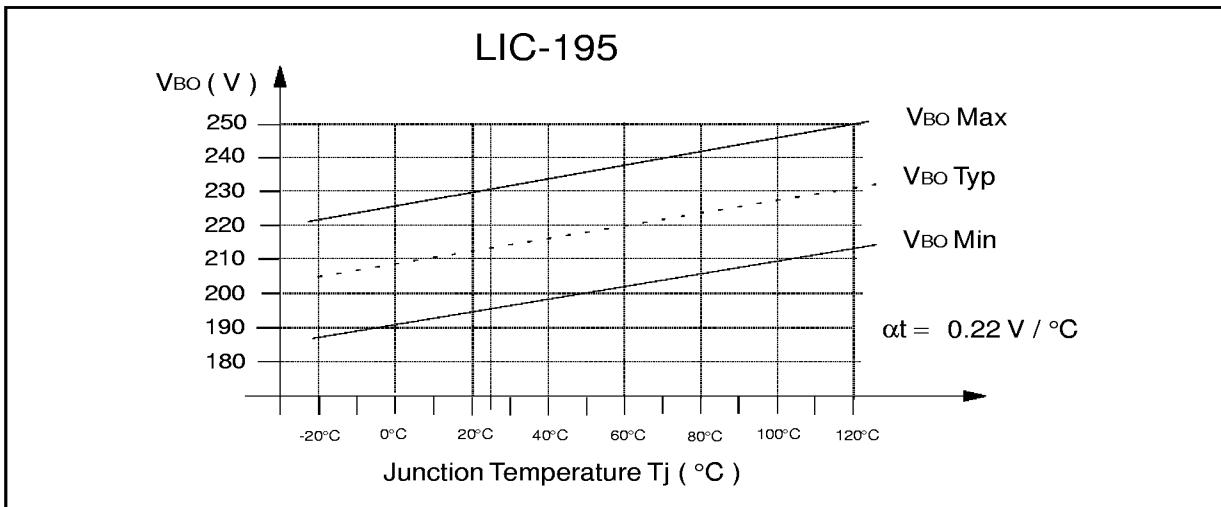
Symbol	Test conditions			Value	Unit
$I_{RM}$	$V_D = V_{RM} 180V$	$T_j = 25^\circ C$	MAX	5	$\mu A$
		$T_j = 125^\circ C$	MAX	50	$\mu A$
$V_{BO}$	$I_{BO}$	LIC01-195	$T_j = 25^\circ C$	MIN 195	V
			MAX	230	
	LIC01-215	$T_j = 25^\circ C$	MIN	215	V
			MAX	255	
$I_{BO}$	$V_{BO}$ max.		$T_j = 25^\circ C$	TYP 200	$\mu A$
				MAX 500	
$I_H$	$I_T = 350mA$	$T_j = 25^\circ C$	MIN	50	mA
$V_{TM}$	$I_{TM} = 1A$	$T_j = 25^\circ C$	TYP	3	V

## HOLDING CURRENT TEST CIRCUIT

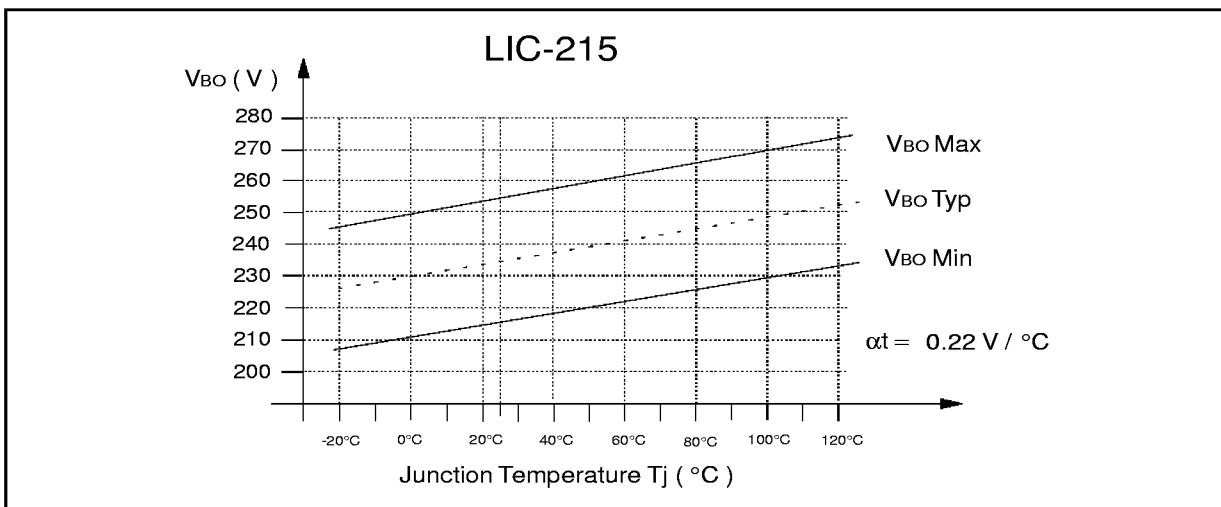


## LIC01-SERIES

### VARIATION OF V<sub>BO</sub> VERSUS JUNCTION TEMPERATURE

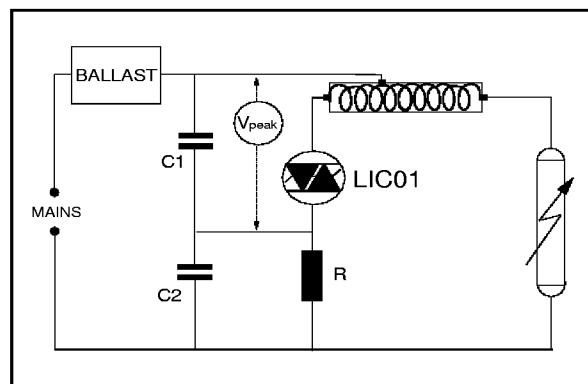


### VARIATION OF V<sub>BO</sub> VERSUS JUNCTION TEMPERATURE

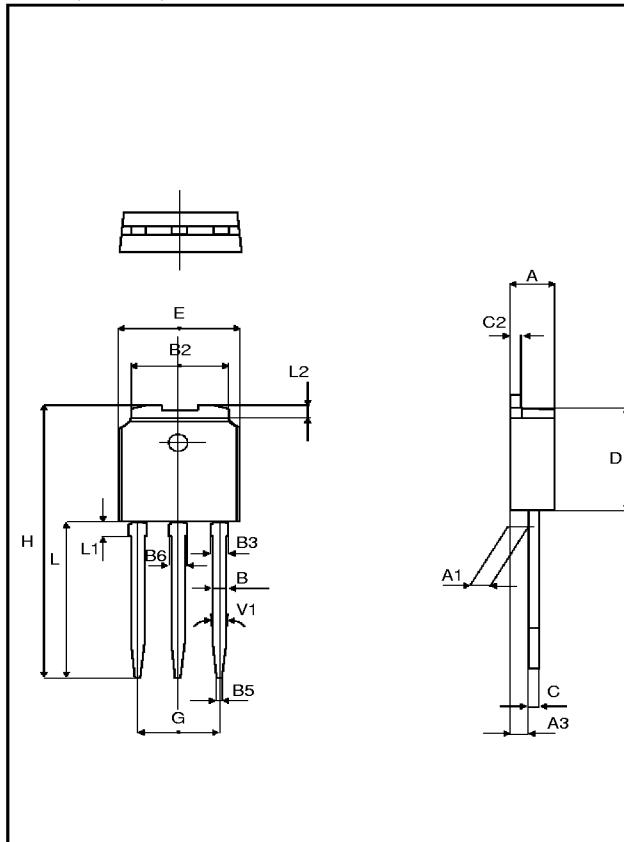


### TYPICAL APPLICATION

When the peak voltage across C1 reaches the break over voltage V<sub>BO</sub> of the LIC01, this device turns on and produces a pulse of current through the primary of the transformer. In turns, the transformer generates high voltage pulses across the lamp.



**PACKAGE MECHANICAL DATA**  
 IPAK (Plastic)



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.2		2.4	0.086		0.094
A1	0.9		1.1	0.035		0.043
A3	0.7		1.3	0.027		0.051
B	0.64		0.9	0.025		0.035
B2	5.2		5.4	0.204		0.212
B3			0.85			0.033
B5		0.3			0.035	
B6			0.95			0.037
C	0.45		0.6	0.017		0.023
C2	0.48		0.6	0.019		0.023
D	6		6.2	0.236		0.244
E	6.4		6.6	0.252		0.260
G	4.4		4.6	0.173		0.181
H	15.9		16.3	0.626		0.641
L	9		9.4	0.354		0.370
L1	0.8		1.2	0.031		0.047
L2		0.8	1		0.031	0.039
V1		10°			10°	

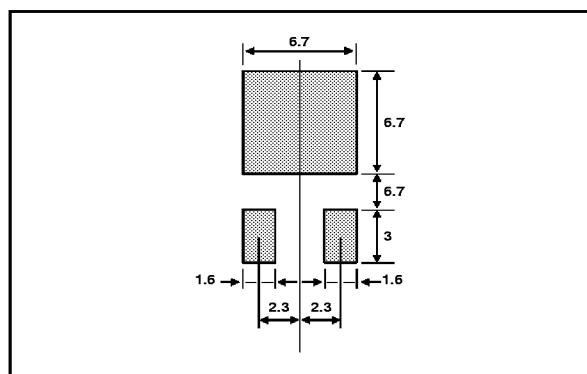
- **Marking:** type number
- **Weight:** 0.350 g.
- **Shipped:** 75 units per tube

## LIC01-SERIES

### PACKAGE MECHANICAL DATA DPAK (Plastic)

REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.094
A1	0.90		1.10	0.035		0.043
A2	0.03		0.23	0.001		0.009
B	0.64		0.90	0.025		0.035
B2	5.20		5.40	0.204		0.212
C	0.45		0.60	0.017		0.023
C2	0.48		0.60	0.018		0.023
D	6.00		6.20	0.236		0.244
E	6.40		6.60	0.251		0.259
G	4.40		4.60	0.173		0.181
H	9.35		10.10	0.368		0.397
L2		0.80			0.031	
L4	0.60		1.00	0.023		0.039
V2	0°		8°	0°		8°

### FOOT PRINT DIMENSIONS (in millimeters)



- **Marking:** type number
- **Weight:** 0.300 g.
- **Shipped:** 2500 units per reel or 75 units per tube

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