

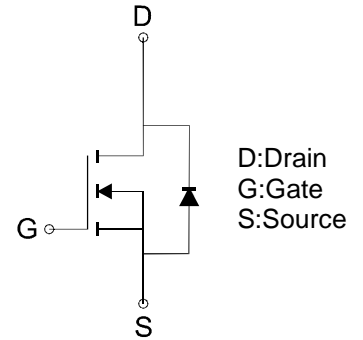
N-Channel 75V MOSFET

Features

- 100% Avalanched Tested
- Low On-Resistance
- Trench Process Technology
- Fast Switching
- 175°C Operation Temperature
- Marking: LTP85N07
- Qualified to AEC-Q101 Rev_C
- Weight: 1.877g
- RoHS Compliant



$B_{VDSS}=75V$,
 $R_{DS(ON)} \leq 9m\Omega @ V_{GS}=10V$
 $I_D=85A$

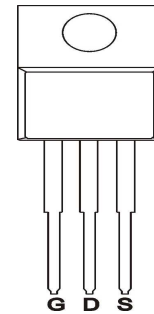


N-Channel MOSFET

Application

- E-bike Appliances
- Motor / Fan Driver
- SMPS Appliances
- High Power System

(TO-220AB)
Top View



Absolute Maximum Ratings (T_A=25°C Unless Otherwise Noted)

PARAMETER		SYMBOL	VALUE	UNIT
Drain-Source Voltage		V _{DSS}	75	V
Gate-Source Voltage		V _{GS}	±20	V
Continuous Drain Current ¹	T _C =25°C	I _D	85	A
	T _C =100°C		77	
Pulsed Drain Current ²		I _{DM}	340	A
Power Dissipation	T _C =25°C	P _D	150	W
Single Pulsed Avalanche Energy ³		E _{AS}	287	mJ
Operating Junction and Storage Temperature Range		T _J , T _{stg}	-55 to 175	°C

Thermal Characteristics

PARAMETER	SYMBOL	TYP	UNIT
Thermal Resistance Junction-to-Case	R _{thJc}	1.0	°C / W
Thermal Resistance Junction-to-Ambient	R _{thJA}	62.5	

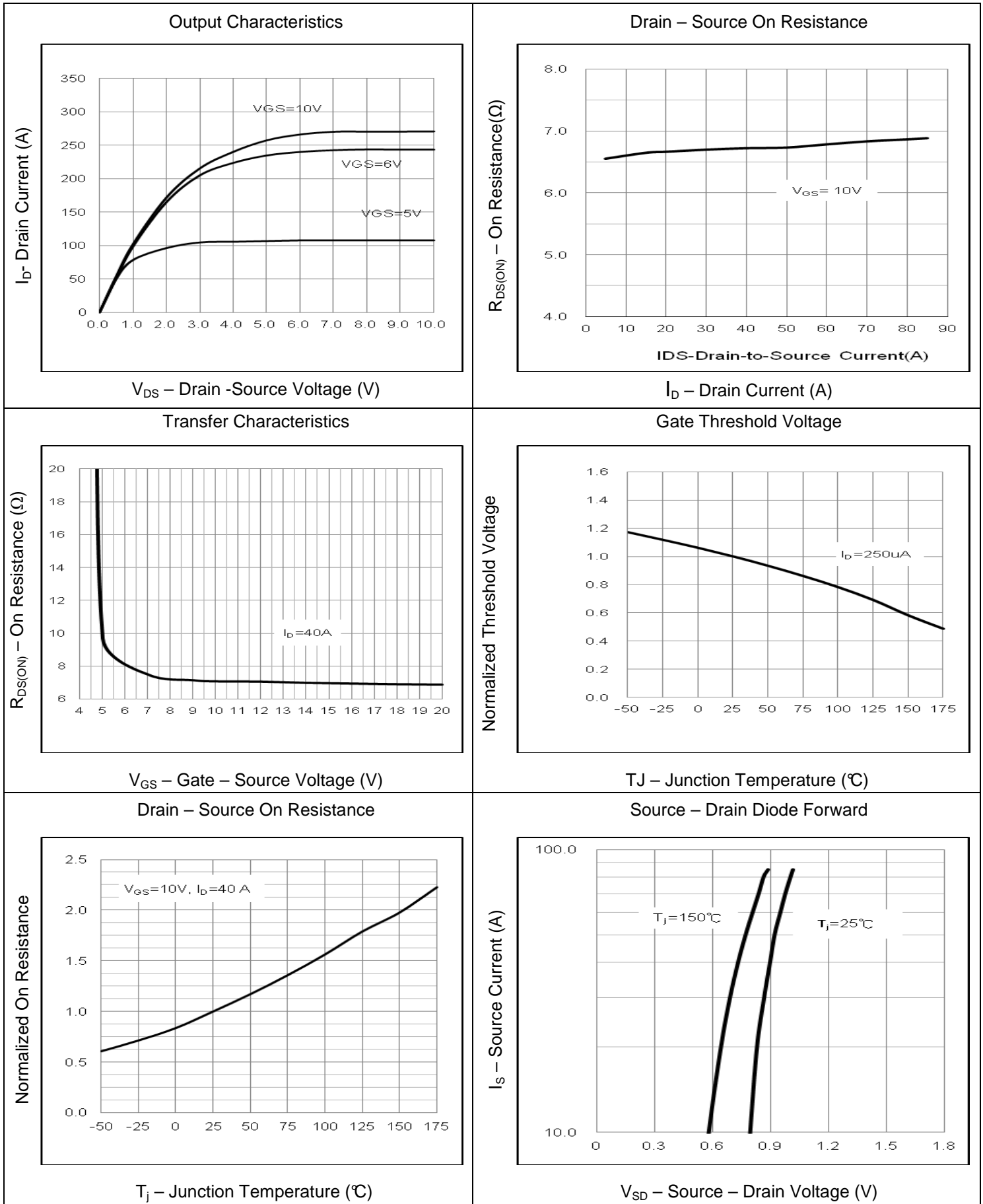
N-Channel 75V MOSFET
Electrical Characteristics ($T_A = 25^\circ\text{C}$ Unless Otherwise Specified)

PARAMETER	TEST CONDITION	SYMBOL	MIN	TYP	MAX	UNIT
STATIC						
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	75	--	--	V
Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	2	--	4	V
Gate-Source Leakage	$V_{DS}=0V, V_{GS}=\pm 20V$	I_{GSS}	--	--	± 100	nA
Zero Gate Voltage Drain Current	$V_{DS}=60V, V_{GS}=0V$	I_{DSS}	--	--	1	μA
Drain-Source On-Resistance ⁴	$V_{GS}=10V, I_D=40A$	$R_{DS(ON)}$	--	7.2	9	m Ω
DYNAMIC						
Total Gate Charge	$V_{GS}=10V, V_{DS}=37.5V, I_D=80A$	Q_g	--	100	--	nC
Gate-Source Charge		Q_{gs}	--	20.5	--	
Gate-Drain Charge		Q_{gd}	--	40.5	--	
Input Capacitance	$V_{GS}=0V, V_{DS}=25V,$ $F=1\text{MHz}$	C_{iss}	--	4600	--	pF
Output Capacitance		C_{oss}	--	380	--	
Reverse Transfer Capacitance		C_{rss}	--	200	--	
Turn-On Delay Time	$V_{GS} = 10V, V_{DS} = 37.5V,$ $R_G = 4.7\Omega, I_D=40A$	$t_{d(on)}$	--	22.5	--	nS
Turn-On Rise Time		t_r	--	47	--	
Turn-Off Delay Time		$t_{d(off)}$	--	74	--	
Turn-Off Fall Time		t_f	--	26	--	
Source-Drain Diode						
Continuous Source Current	Integral reverse PN diode in the MOSFET	I_S	--	--	85	A
Pulsed Source Current		I_{SM}	--	--	340	
Diode Forward voltage	$I_{SD}=85A, V_{GS}=0V$	V_{SD}	--	--	1.3	V
Reverse Recovery Time	$I_F=85A, V_{DD}=54.4V,$ $di/dt=100A/\mu S$	T_{rr}	--	30	--	nS
Reverse Recovery Charge		Q_{rr}	--	20	--	nC

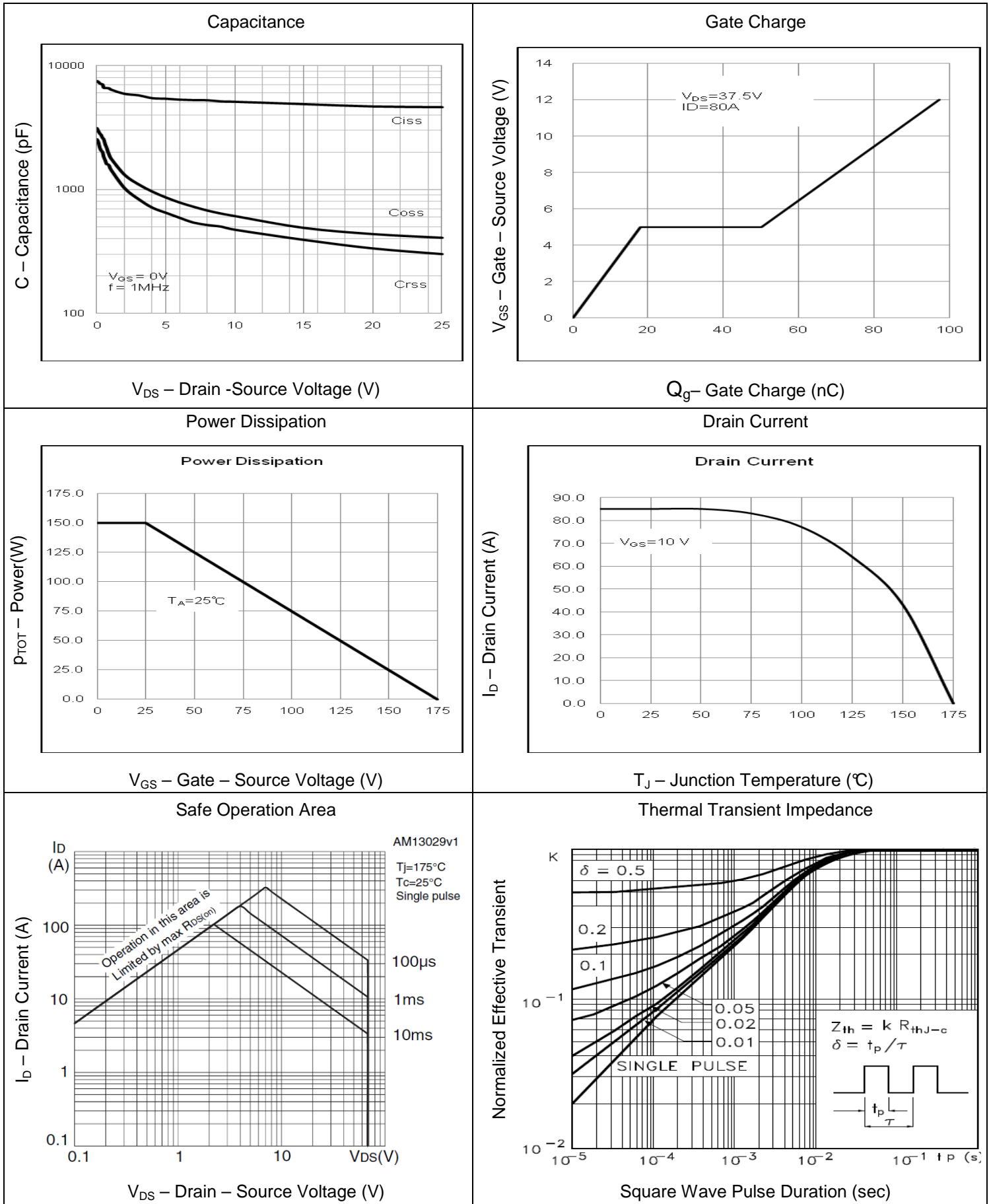
Notes:

- (1). Limited by bonding wire
- (2). Pulse width $\leq 300\mu S$, duty cycle $\leq 2\%$
- (3). Starting $T_j \geq 25^\circ\text{C}$, $I_D=47A$, $V_{DD}=40V$
- (4). Pulse Test: Pulse width $< 400\mu s$, duty cycle $\leq 2\%$
- (5). LiteON Semiconductor reserves the right to improve product design, functions and reliability without notice

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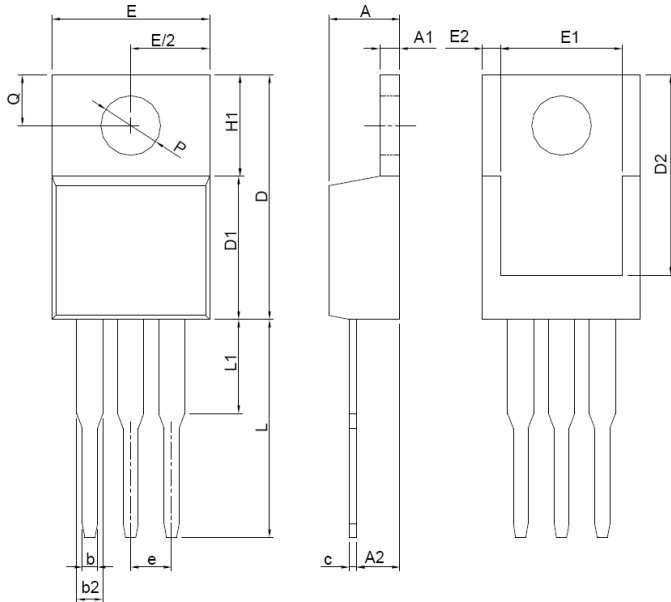
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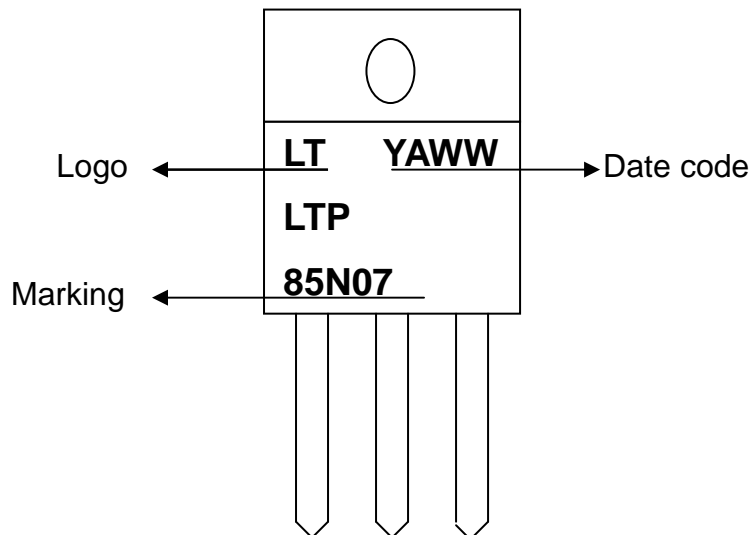
Package Outline Dimension

TO-220AB



TO-220AB		
DIM	MIN	MAX
A	3.56	4.83
A1	0.51	1.40
A2	2.03	2.92
b	0.38	1.02
b2	1.14	1.78
c	0.36	0.61
D	14.22	16.51
D1	8.38	9.02
D2	12.19	12.88
E	9.65	10.67
E1	6.86	8.89
E2	0.76 BSC	
e	2.54 BSC	
H1	5.84	6.86
L	12.70	14.73
L1	6.35 BSC	
P	3.53	4.09
Q	2.54	3.43
All Dimensions in millimeter		

Marking information



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