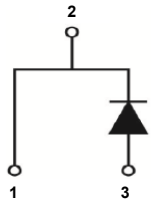
●Features

- ■High Surge Current Capacity
- ■Low Forward Voltage Drop
- ■Low Power Loss & High Efficiency
- ■Guard Ring & Environmental Protetion
- ■High Temperature Appliacation
- ■Green Molding Compound(No Br,Sb)



$I_{F(AV)}$: 4.8A

V_{RRM}: 650V

TO-252

●Application

- ■Half-Bridge/Full-Bridge Switched-Mode Power
- ■PC Power

●Ordering Information:

Part Number	LHC04A65
Package	TO-252
Basic Ordering Unit (pcs)	5000
Normal Package Material Ordering Code	LHC04A65T5-TO252-TAP
Halogen Free Ordering Code	LHC04A65T5-TO252-TAP

●Maximum Ratings Characteristics（T_A =25℃ Unless otherwise Noted）

PARAMETER	SYMBOL	Value	UNIT
Repetitive Peak Reverse Voltage	VRRM	650	V
Working Peak Reverse Voltage	V_{RWM}	650	V
DC blocking Voltage	V_{RM}	650	V
Average Rectified Forward Current (Rated VR-20KHz Square Wave)-50% duty cycle	IF(AV)	4.8	A
Repetitive Peak Forwardsurge current (surge applied at rated load conditions half wave,single phase,60Hz)	I_{FSM}	48	A
Operating Temperature	T_J	-55~+175	℃
Storage Temperature	T_{STG}	-55~+175	℃

●Electronic Characteristics

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Forward Voltage Drop	VF	I_F=4A,T_J=25℃	--	1.5	1.8	V
		IF=4A,T_J=175℃	--	1.8	2.0	
Reverse Current	IR	V_R=V_{RRM},T_J=25℃	--	1	20	uA
		V_R=V_{RRM},T_J=175℃	--	12	100	nA
Total Capacitive Charge	Qc	V_R = 400 V, T_J = 25°C	--	28	--	nC
Total Capacitance	C_T	V_R=0V,T_J=25°C,f=1MHz	--	185	--	pF
		V_R=200V,T_J=25°C, f=1MHz	--	19	--	
		V_R=400V,T_J=25°C, f=1MHz	--	67	--	
Capacitance Stored Energy	Ec	V_R=400V	--	2.4	--	μJ

●Thermal Characteristics

PARAMETER	SYMBOL	MAX	UNIT
Thermal Resistance Junction-case	Rth_{JC}	2.4	℃/W

Note:

1.300Us pulse width 2% duty cycle

2.Thermal Resistance test performed in accordance with JESD-51

●Ratings and Characteristics Curves

Figure 1. Forward Characteristics

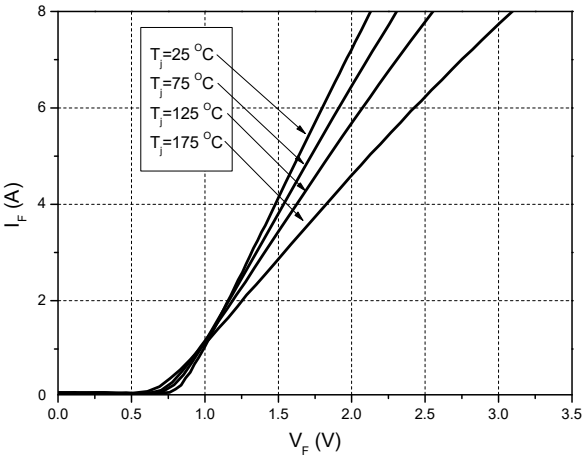


Figure 2. Reverse Characteristics

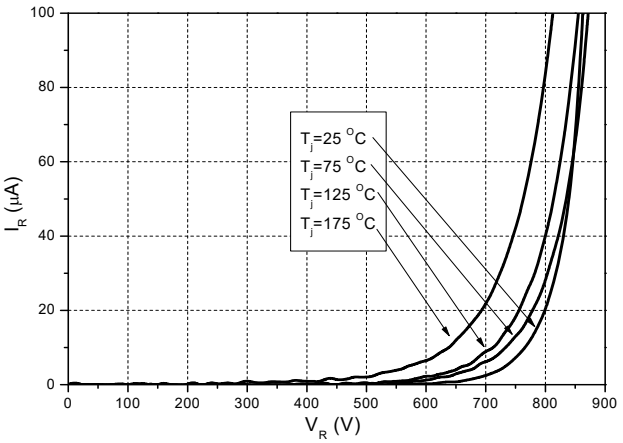


Figure 3. Capacitance vs. Reverse Voltage

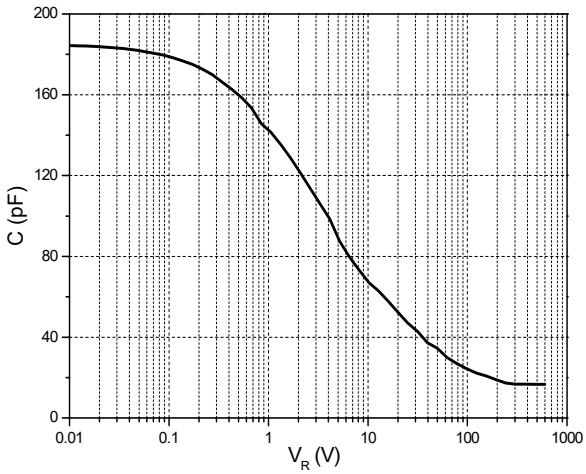
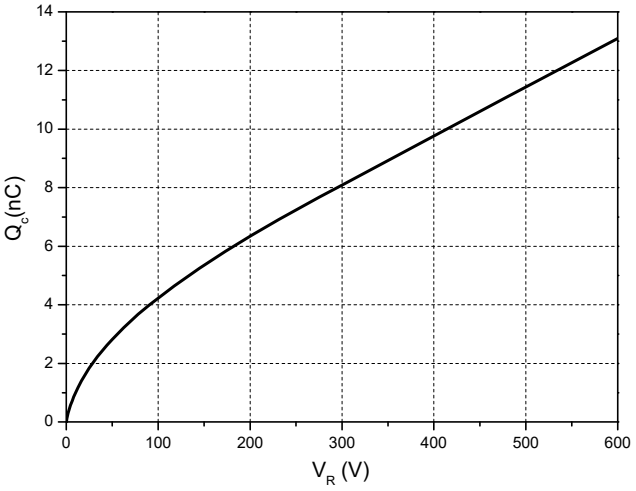


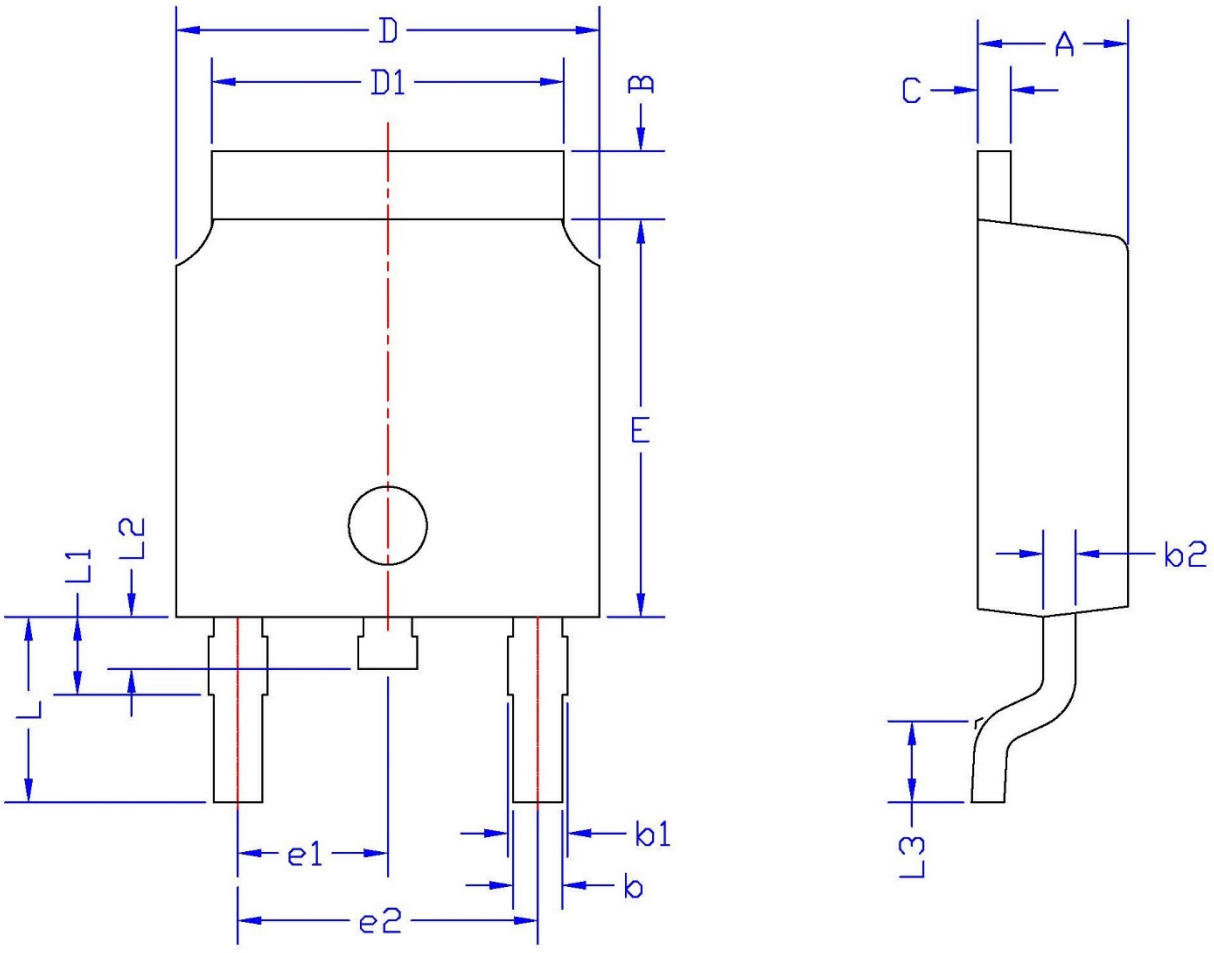
Figure 4. Total Capacitance Charge vs. Reverse Voltage



●Dimensions（TO-252)

UNIT:mm

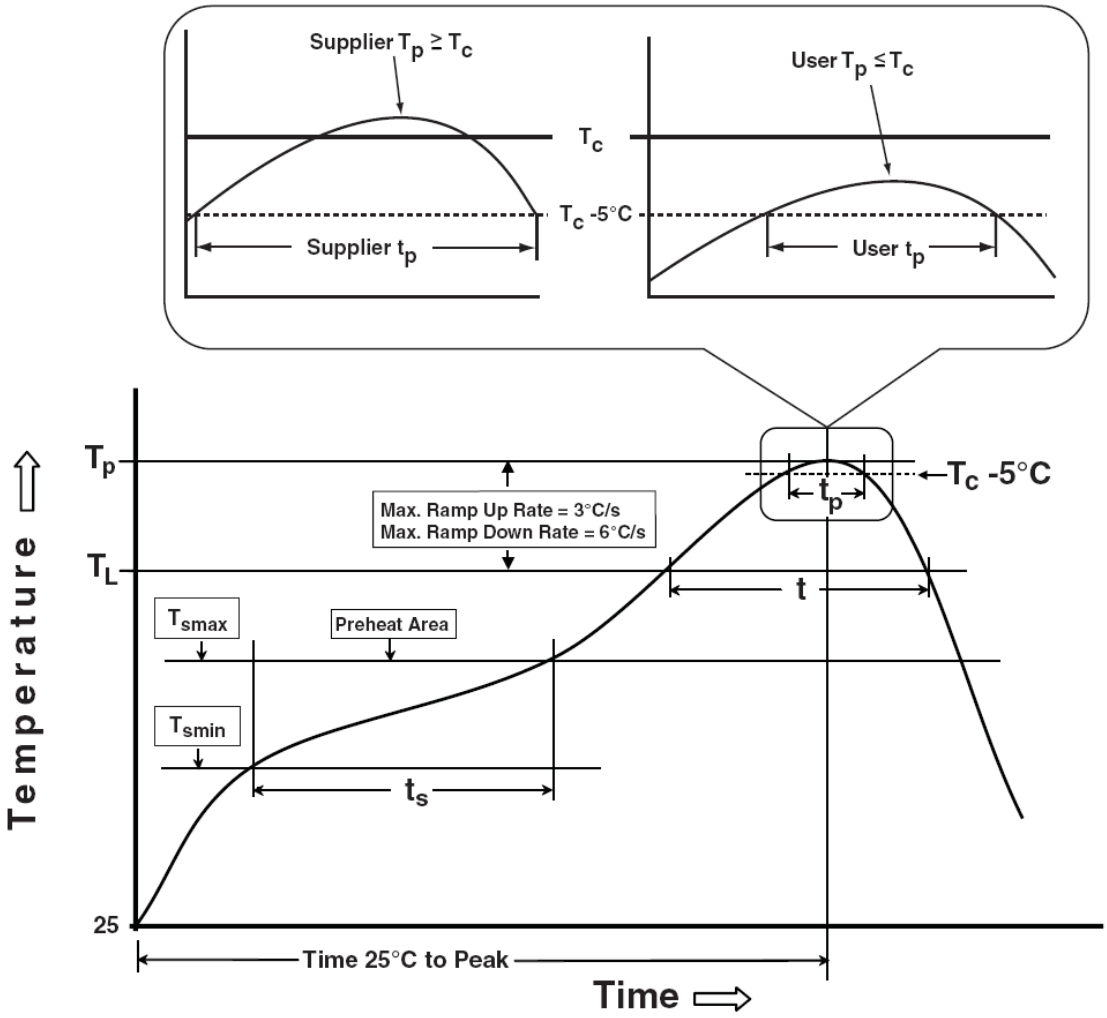
SYMBOL	min	max	SYMBOL	min	max
A	2.10	2.50	L2	0.60	1.20
b	0.50	0.90	L3	1.20	1.80
b1	0.70	1.20	B	0.80	1.30
b2	0.40	0.70	C	0.40	0.70
D	6.20	6.80	D1	5.10	5.60
E	5.80	6.40	e1	2.10	2.45
L	2.60	3.60	e2	4.40	4.80
L1	0.80	1.60			



• Mechanical

■ Molder Plastic: UL Flammability Classification Rating 94V-0

• Classification Profile



• Classification Reflow Profiles

Average ramp-up rate (T_L to T_P)	<3°C/sec	<3°C/sec
Preheat - Temperature Min (Ts_{min}) - Temperature Max (Ts_{max}) - Time (min to max) (ts)	 100°C 150°C 60 to 120 sec	 150°C 200°C 60 to 180 sec
Tsmax to T_L - Ramp-up Rate	 <3°C/sec	 <3°C/sec
Time maintained above: - Temperature (T_L) - Time (t_L)	 183°C 60 to 150 sec	 217°C 60 to 150 sec
Peak Temperature (T_P)	240°C +0/-5°C	260°C +0/-5°C
Time within 5°C of actual Peak Temperature (t_P)	10 to 30 sec	20 to 40 sec
Ramp-down Rate	<6°C/sec	<6°C/sec
Time 25°C to Peak Temperature	<6 minutes	<8 minutes

Flow (wave) soldering (solder dipping)

Products	Peak Temperature	Dipping Time
Pb devices.	245°C ±5°C	5sec ±1sec
Pb-Free devices.	260°C +0/-5°C	5sec ±1sec

• Reliability Test Program

Testitem	Method	Description
Solderabity	JESD-22,B102	5sec , 245°C
Holt	JESD-22,A108	1000Hrs,Bias@125°C
PCT	JESD-22,A102	168Hrs,100%RH,2atm,121°C
TCT	JESD-22,A104	500Cycles, -65°C ~150°C