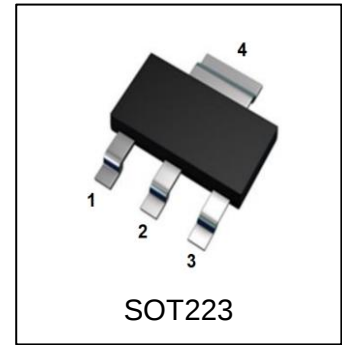


LN05N15TZHG

N-Channel 150-V Power MOSFET

1. FEATURES

- High Speed Power Switching.
- Enhanced Avalanche Ruggedness.
- Lead Free, HalogenFree.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.

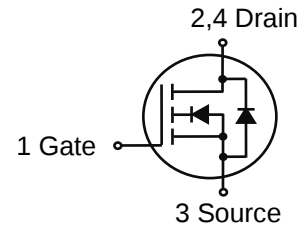


2. APPLICATION

- Synchronous Rectification in SMPS.
- Hard Switching and High Speed Circuit.

3. ORDERING INFORMATION

Device	Marking	Shipping
LN05N15TZHG	TN	4000/Tape&Reel



4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	VDSS	150	V
Gate-to-Source Voltage	VGS	±20	V
Continuous Drain Current(Note 1)	ID	4	A
Pulsed Drain Current (Note 2)	IDM	16	A
Power Dissipation(Note 1)	PD	1.9	W
Operating Junction Temperature	TJ	-55 ~+150	°C
Storage Temperature Range	Tstg	-55 ~+150	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Thermal Resistance,Junction-to-Ambient(Note 1)	RθJA	65	°C/W
Thermal Resistance,Junction-to-Case (Note 3)	RθJA	150	°C/W
Thermal Resistance,Junction-to-Case (Note 3)	RθJC	7	°C/W

1."1.5 x 1.5"FR4 board using 1 sq in pad, 2 oz Cu.

2.Pulse width limited by maximum junction temperature

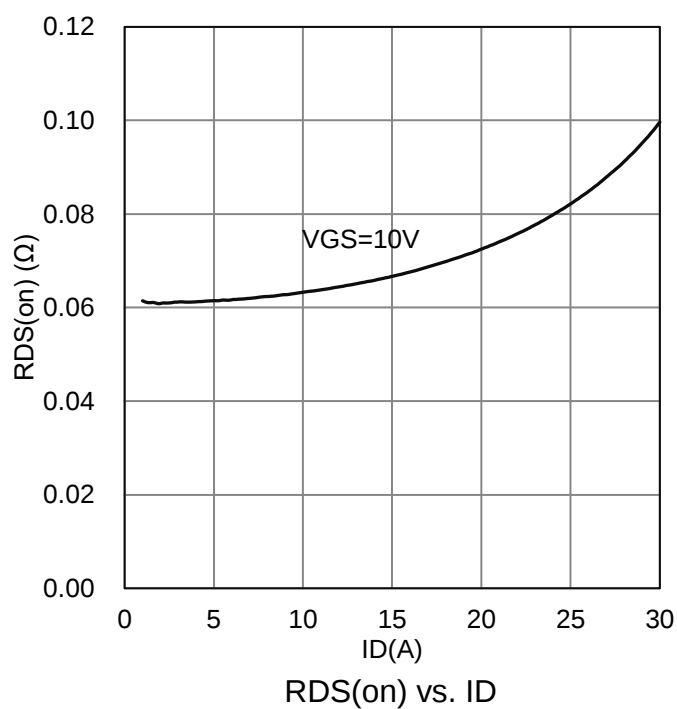
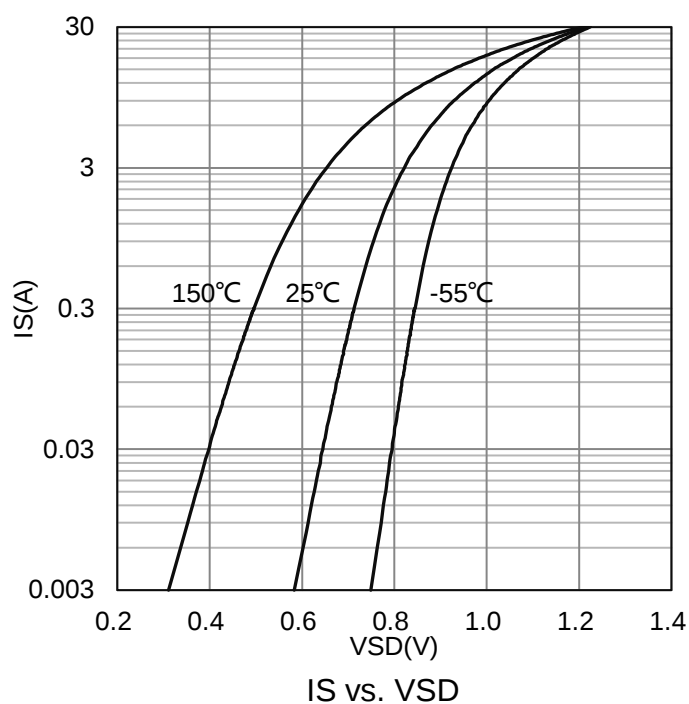
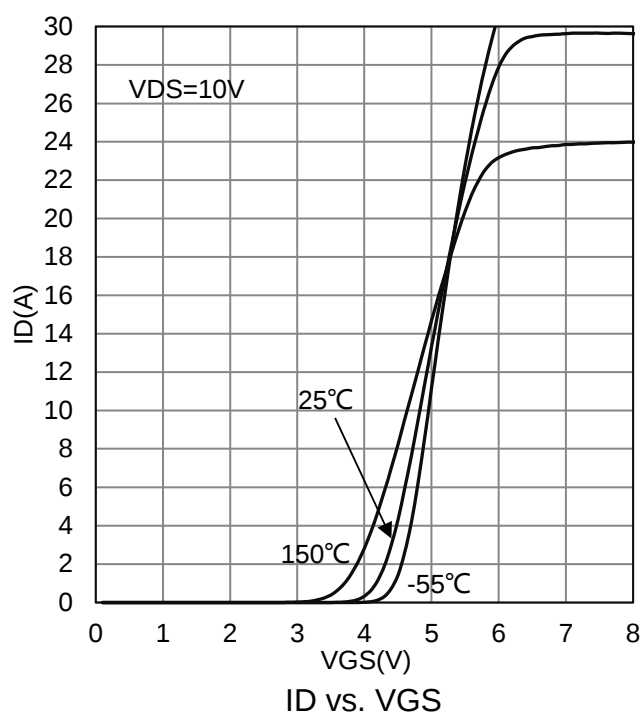
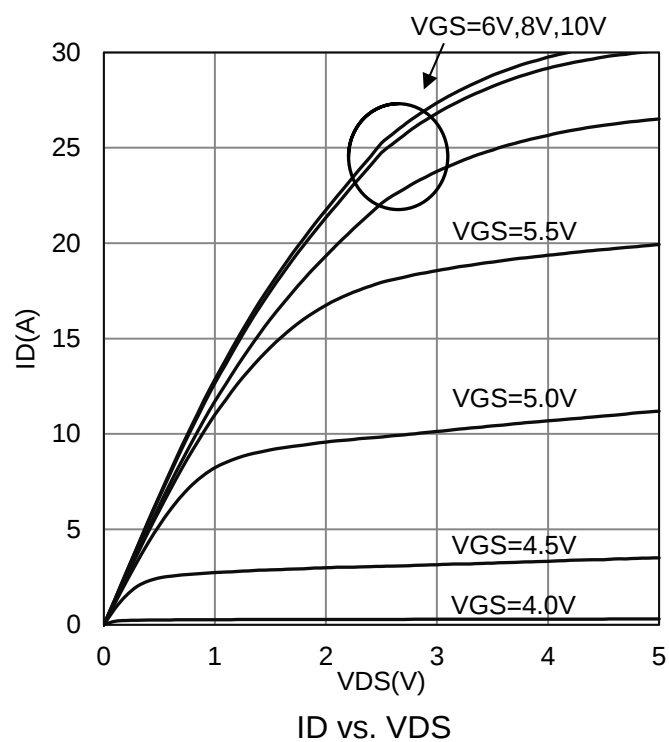
3.Surface-mounted on FR4 board using the minimum recommended pad size.

6. ELECTRICAL CHARACTERISTICS

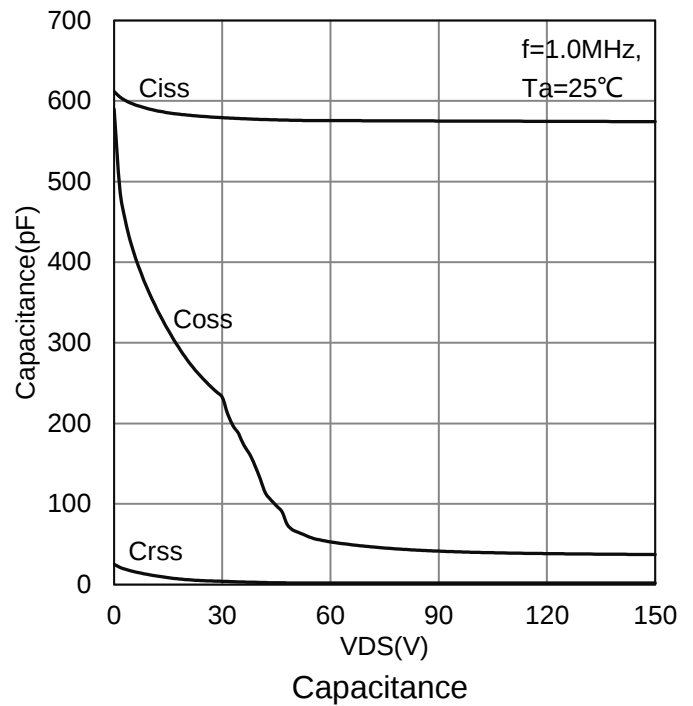
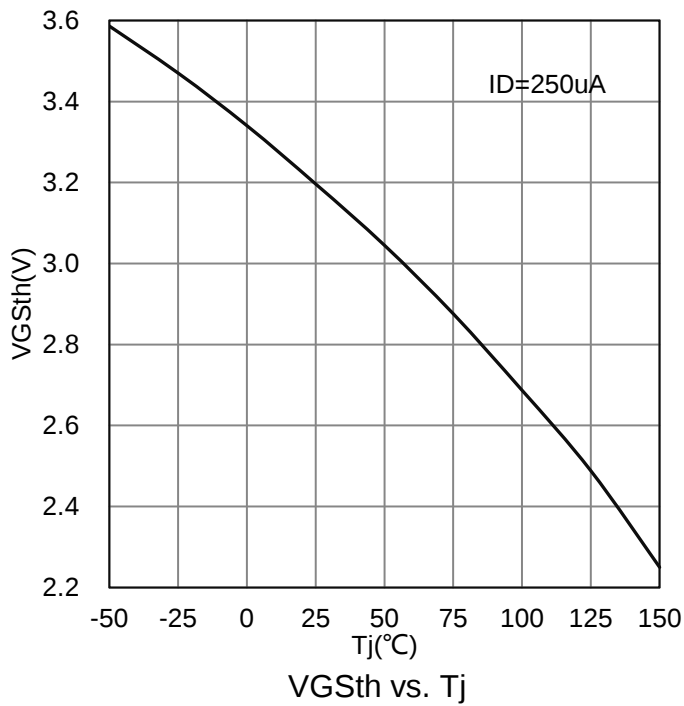
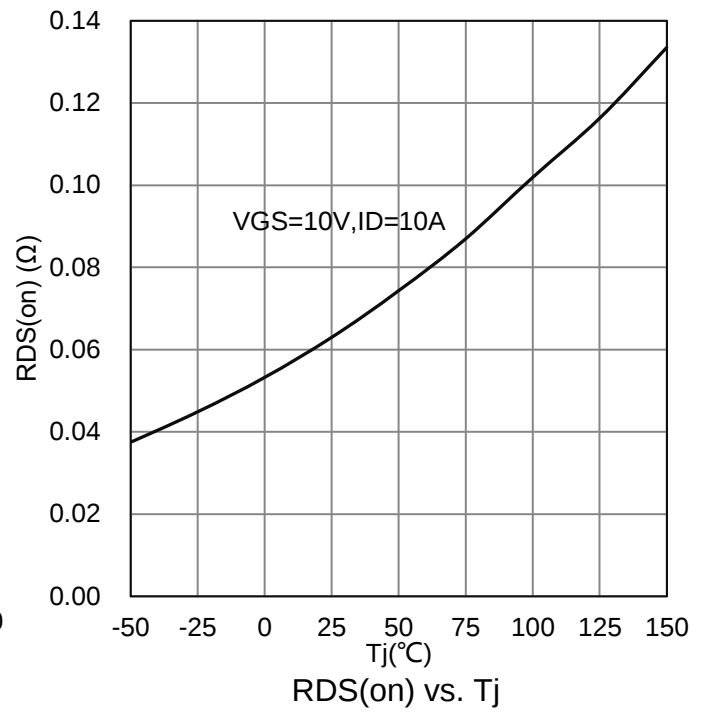
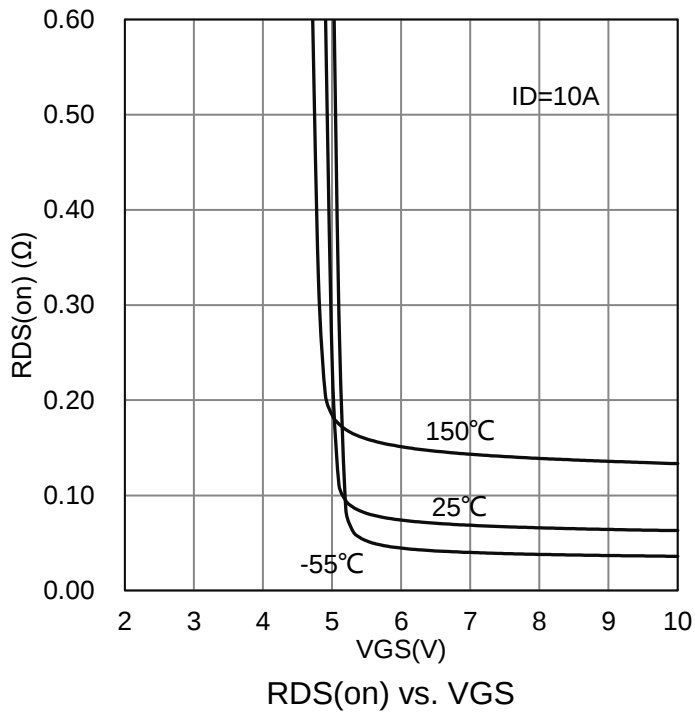
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0, ID = 250μA)	VBRDSS	150	-	-	V
Gate-Source Threshold Voltage (VDS = VGS, ID = 250 μA)	VGS(th)	2	3	4	V
Gate-Body Leakage (VDS = 0 V, VGS = ±20 V)	IGSS	-	-	±100	nA
Zero Gate Voltage Drain Current (VDS = 150 V, VGS = 0 V)	IDSS	-	-	1	μA
Drain-Source On-Resistance(Note 4) (VGS = 10 V, ID = 3 A)	RDS(on)	-	58	75	mΩ
Diode Forward Voltage(Note 4) (IS = 1A, VGS = 0 V)	VSD	-	0.9	1.2	V
Dynamic					
Total Gate Charge	(VDS = 75 V, VGS = 10 V, ID = 10 A)	Qg	-	7.6	nC
Gate-Source Charge		Qgs	-	2.8	
Gate-Drain Charge		Qgd	-	1.9	
Turn-On Delay Time	(VDS = 75 V, VGS = 10 V, ID = 10 A, RG=10 Ω)	td(on)	-	9	ns
Rise Time		tr	-	4	
Turn-Off Delay Time		td(off)	-	11	
Fall Time		tf	-	3	
Input Capacitance	(VDS = 75 V, VGS = 0 V, f = 1 MHz)	Ciss	-	578	pF
Output Capacitance		Coss	-	46	
Reverse Transfer Capacitance		Crss	-	1.6	

4. Pulse test: $PW \leq 300\mu s$ duty cycle $\leq 2\%$.

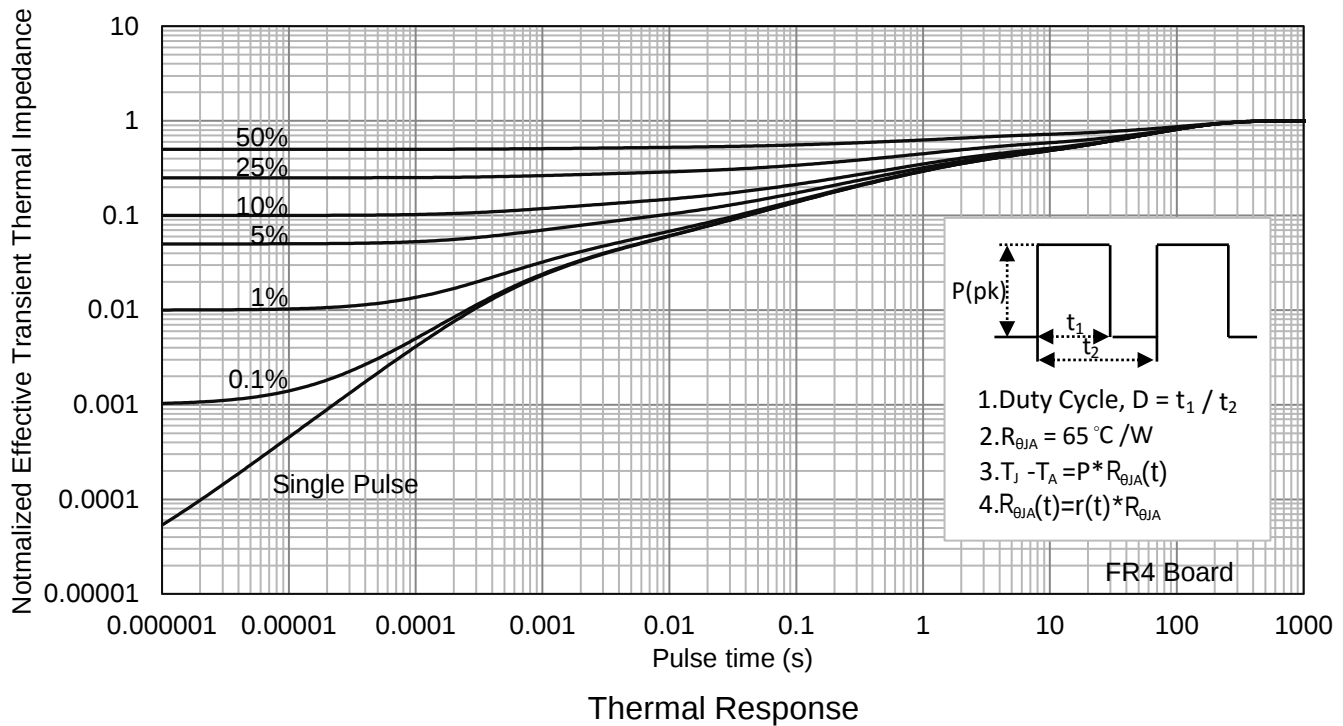
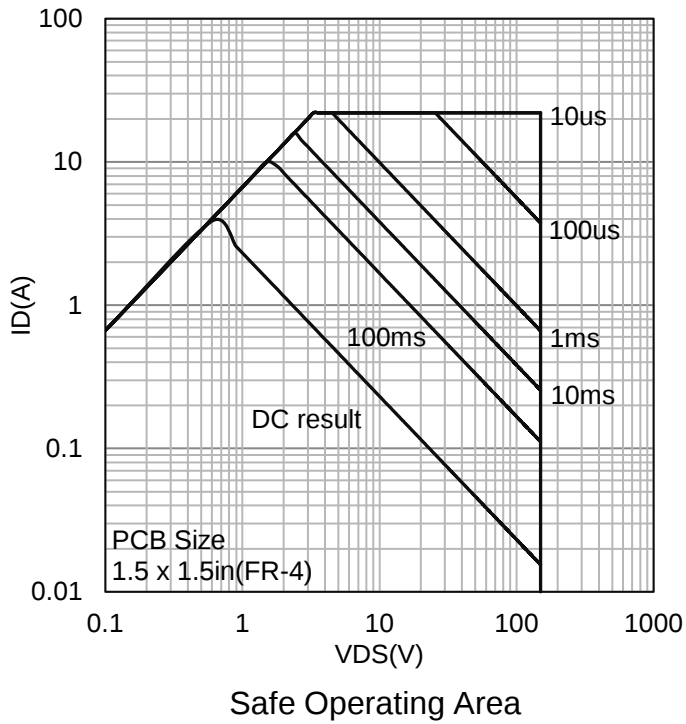
7. ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

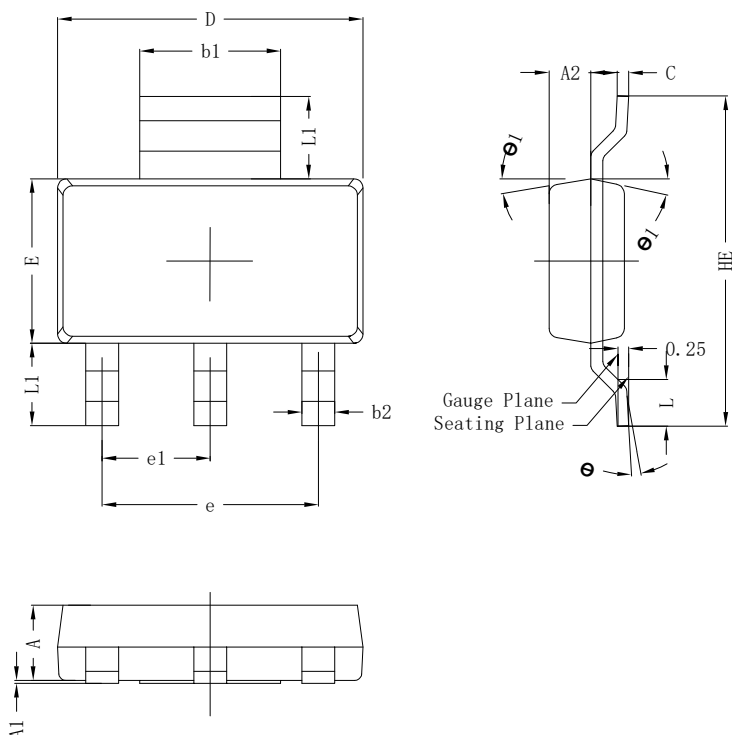


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8.OUTLINE AND DIMENSIONS

SOT223

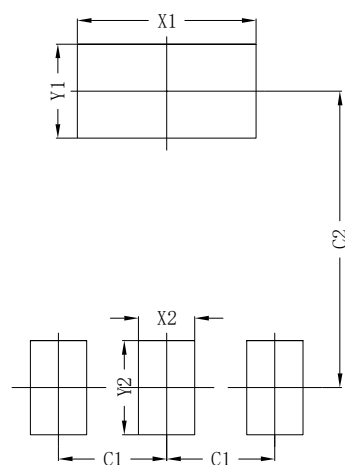


SOT223			
DIM	MIN	NOR	MAX
A	1.50	1.60	1.70
A1	0.00	0.05	0.10
A2	0.80	0.90	1.00
b1	2.90	3.02	3.10
b2	0.60	0.72	0.80
c	0.20	0.27	0.35
D	6.30	6.50	6.70
E	3.30	3.50	3.70
e	4.60BSC		
e1	2.30BSC		
HE	6.80	7.00	7.20
L	0.80	1.00	1.20
L1	1.75(REF)		
θ	0°~8°		
θ 1	8°	10°	12°
All Dimensions in mm			

GENERAL NOTES

1. Top package surface finish $Ra0.4 \pm 0.2\mu m$
2. Bottom package surface finish $Ra0.7 \pm 0.2\mu m$
3. Side package surface finish $Ra0.4 \pm 0.2\mu m$
4. Protrusion or Gate Burrs shall not exceed 0.10mm per side.

9.SOLDERING FOOTPRINT



SOT223	
DIM	(mm)
X1	3.80
Y1	2.00
X2	1.20
Y2	2.00
C1	2.30
C2	6.30

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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- All information contained in this document is current as of the issuing date and subject to change without any prior notice. Before purchasing or using LRC's Products, please confirm the latest information with a LRC sales representative.