

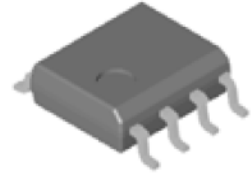
LP4433T1G

30V P-Channel (D-S) MOSFET

SOP-8

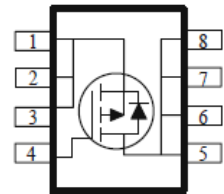
1. FEATURES

- $V_{DS} = -20V$
 $R_{DS(ON)} \leq 28m\Omega, V_{GS@-10V}$.
 $R_{DS(ON)} \leq 48m\Omega, V_{GS@-4.5V}$.
- Low $R_{DS(ON)}$ trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.



2. APPLICATIONS

- Load Switches
- DC/DC Conversion
- Motor Drives



3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LP4433T1G	LP4433	4000/Tape&Reel

4. MAXIMUM RATINGS($T_a = 25^\circ C$)

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current (Note1)		I_D	-6	A
Pulsed Drain Current (Note2)		I_{DM}	-24	
Power Dissipation (Note1)	$T_a = 25^\circ C$	PD	1.9	W
	$T_a = 70^\circ C$		1.2	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55~+150	$^\circ C$

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Thermal Resistance,Junction-to-Ambient (Note 1)	$R_{\theta JA}$	65	$^\circ C/W$
Thermal Resistance,Junction-to-Case	$R_{\theta JC}$	12	$^\circ C/W$

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

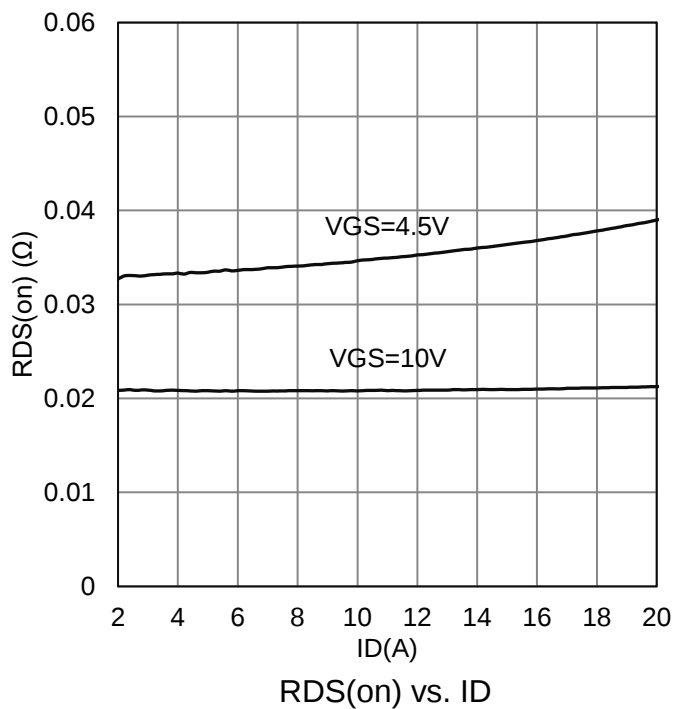
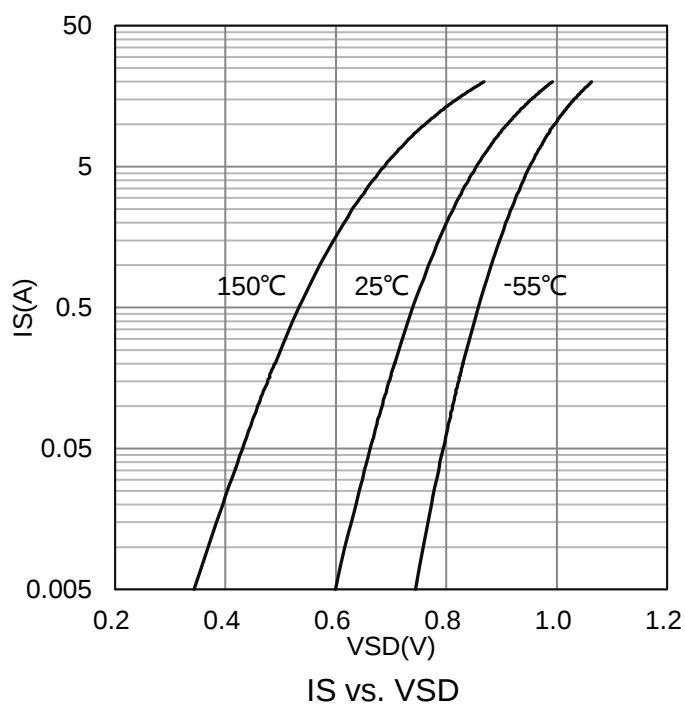
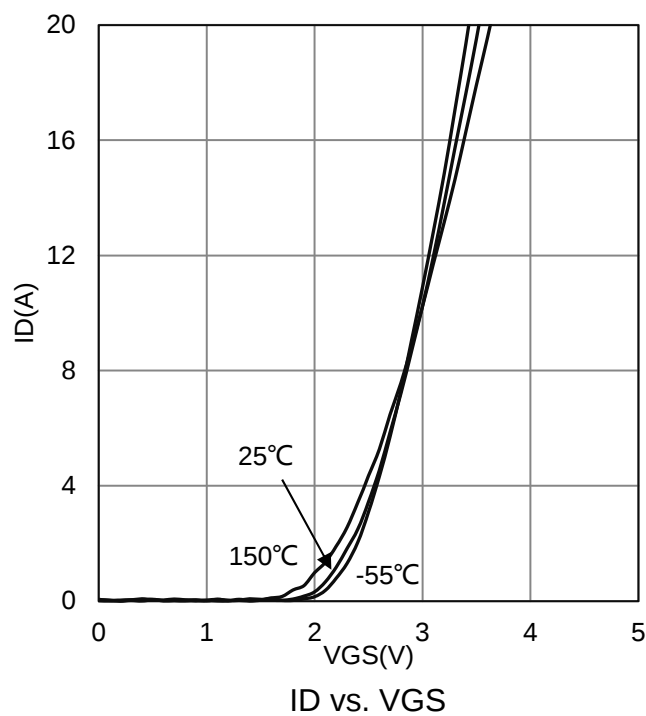
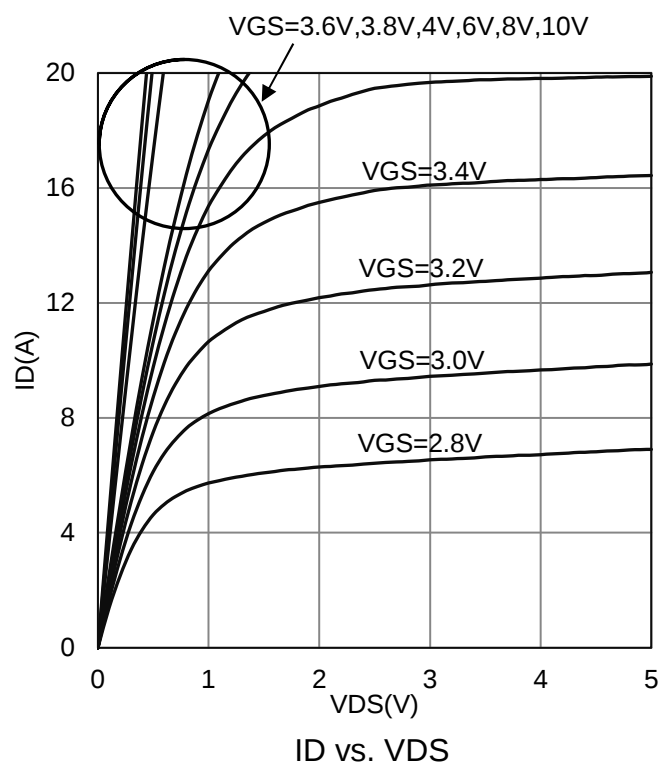
2.Pulse width limited by maximum junction temperature

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

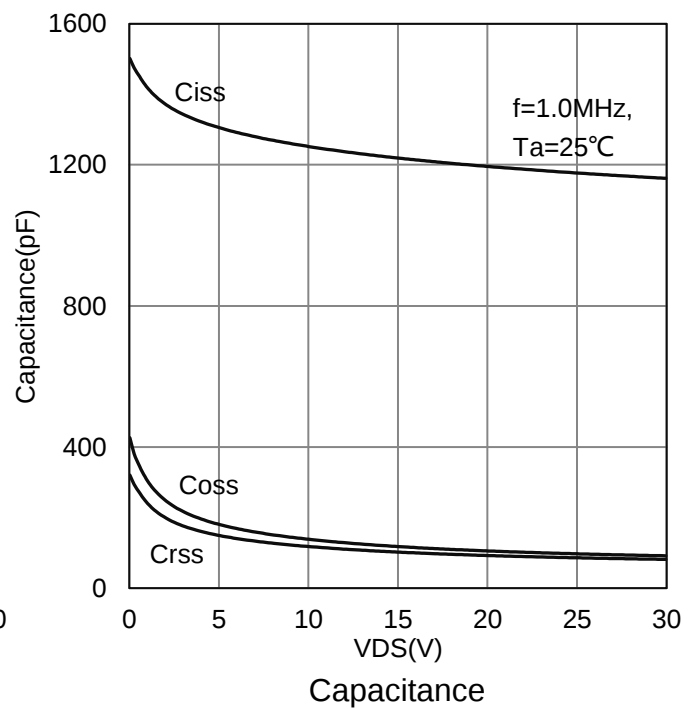
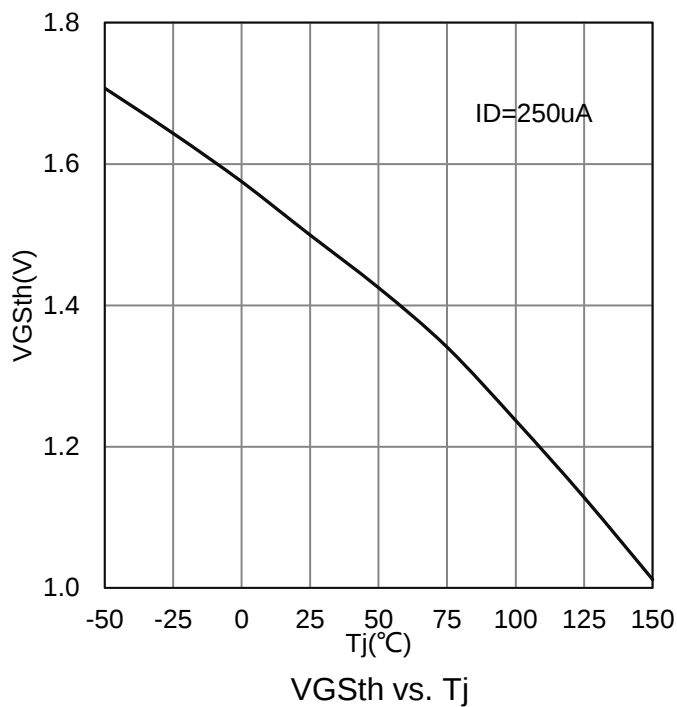
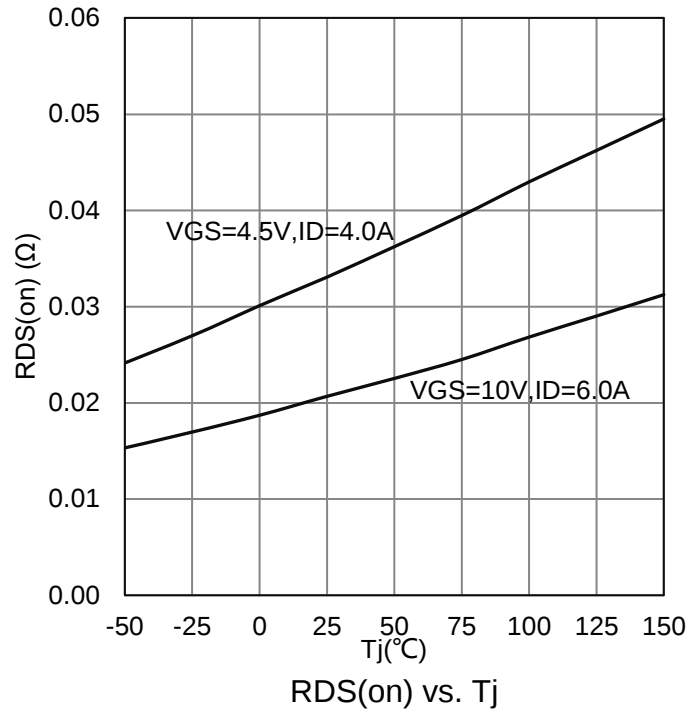
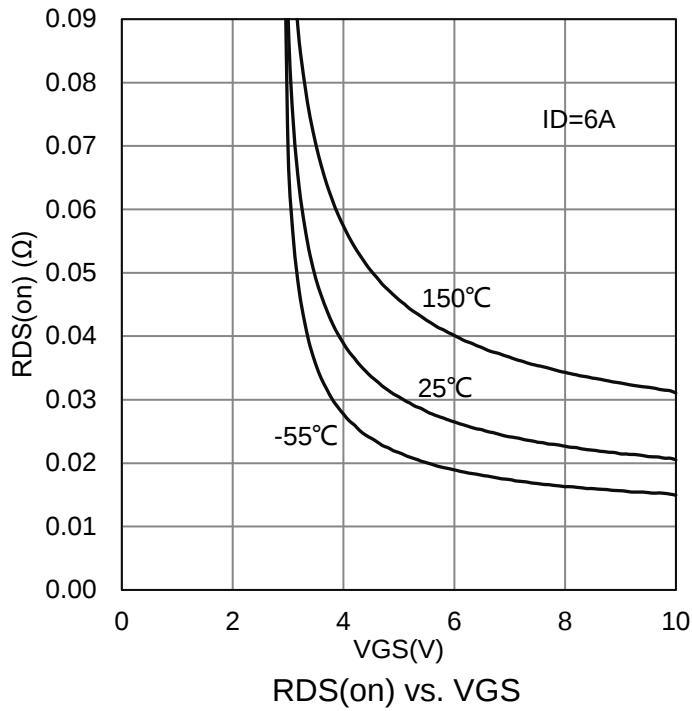
Characteristic		Symbol	Min.	Typ.	Max.	Unit
Static						
Drain-Source Breakdown Voltage (VGS = 0 V, ID = -250 μ A)		V(BR)DSS	-30	-	-	V
Gate Threshold Voltage (VDS = VGS , ID = -250 μ A)		VGS(th)	-1.4	-1.6	-3	V
Gate Leakage Current (VDS = 0 V, VGS = $\pm$ 20 V)		IGSS	-	-	$\pm$ 100	nA
Zero Gate Voltage Drain Current (VDS = -24 V, VGS = 0 V)		IDSS	-	-	-1	μ A
Drain-Source On-Resistance(Note 3) (VGS = -10 V, ID = -6 A) (VGS = -4.5 V, ID = -4 A)		RDS(ON)	- -	22 35	28 48	m Ω
Diode Forward Voltage(Note 3) (IS = -1 A, VGS = 0 V)		VSD	-	-	-1.5	V
Dynamic (Note 4)						
Total Gate Charge	(VDS = -15 V, VGS = -4.5 V,ID = -7 A)	Qg	-	18	-	nC
Gate-Source Charge		Qgs	-	4.2	-	
Gate-Drain Charge		Qgd	-	7.4	-	
Turn-On Delay Time	(VDS = -15 V, RL = 2.1 Ω ,ID = -7 A,VGEN = -10 V, RGEN = 6 Ω)	td(on)	-	6	-	ns
Rise Time		tr	-	5	-	
Turn-Off Delay Time		td(off)	-	55	-	
Fall Time		tf	-	21	-	
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	1539	-	pF
Output Capacitance		Coss	-	163	-	
Reverse Transfer Capacitance		Crss	-	151	-	

3. Pulse test; pulse width $\leq$ 300 μ s, duty cycle $\leq$ 2%

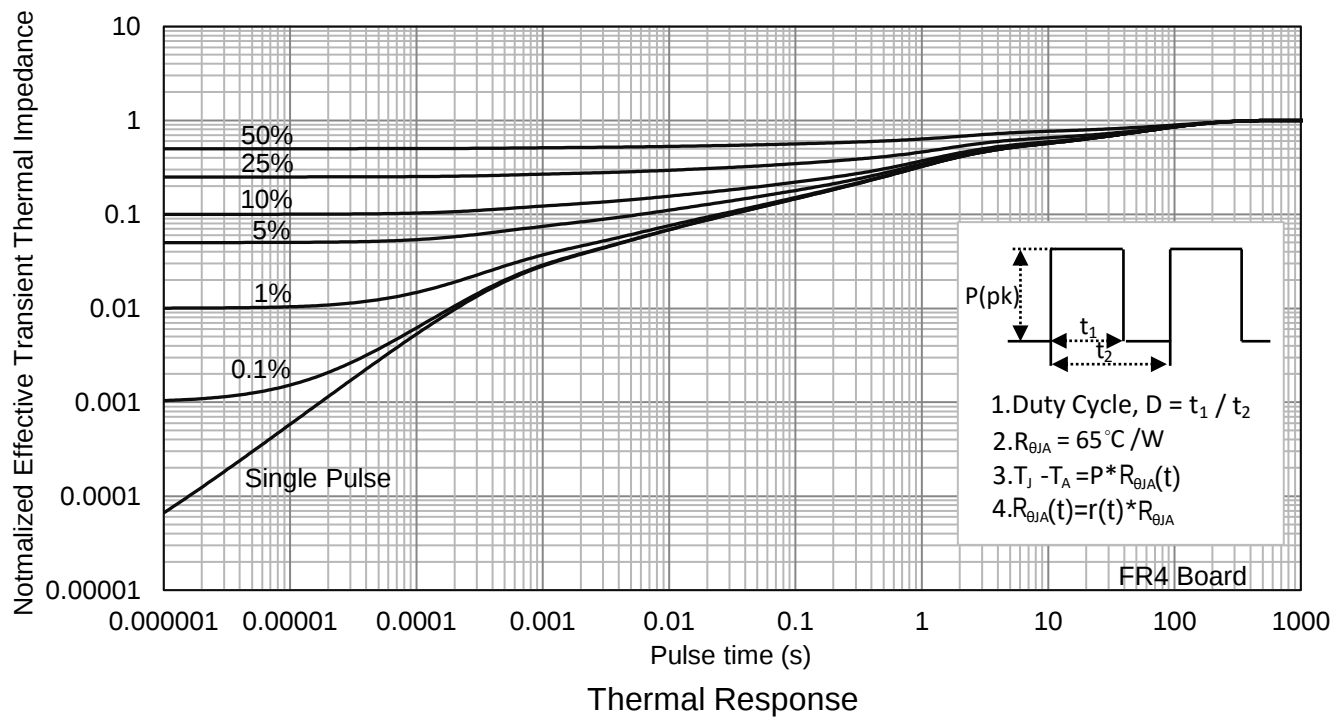
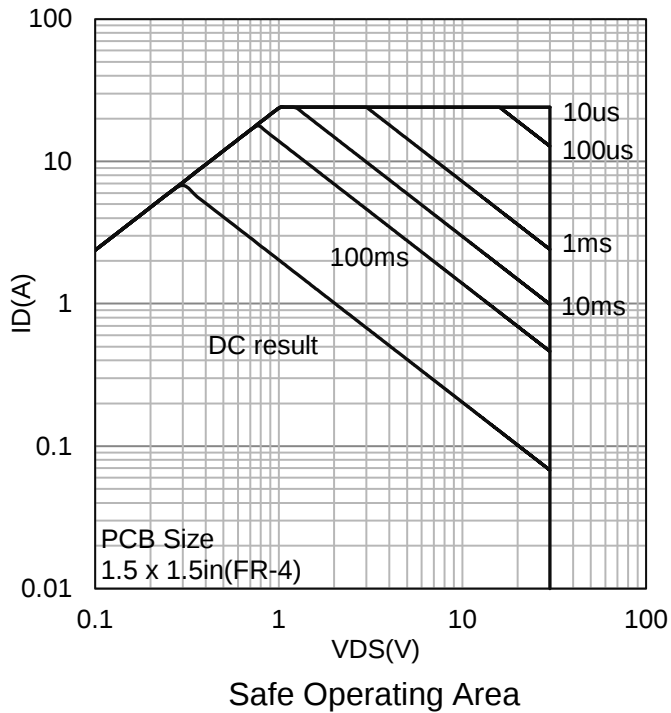
7. ELECTRICAL CHARACTERISTICS CURVES



7. ELECTRICAL CHARACTERISTICS CURVES(Con.)

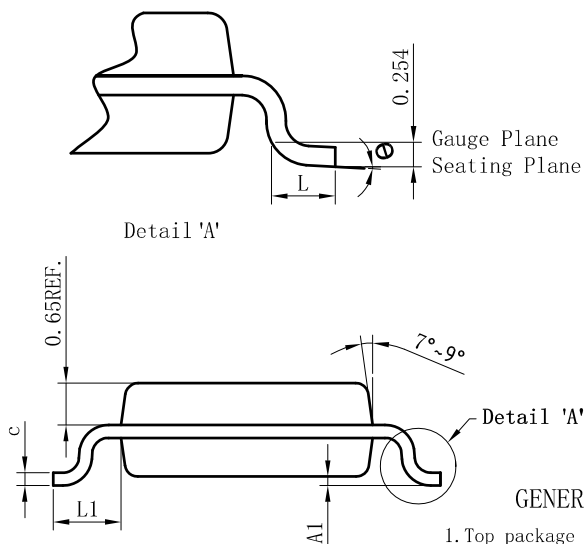
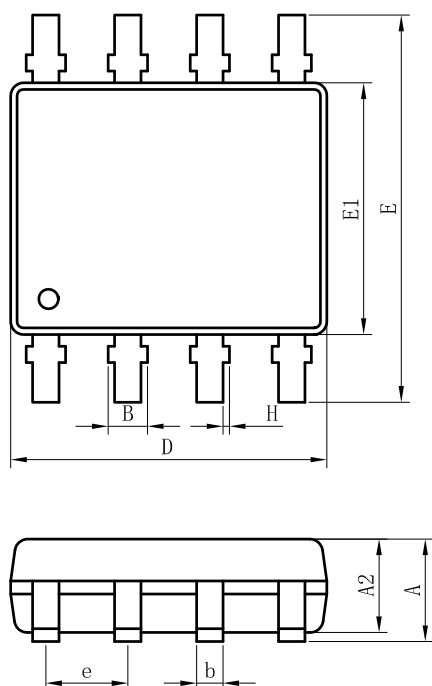


7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



8.OUTLINE AND DIMENSIONS

SOP8

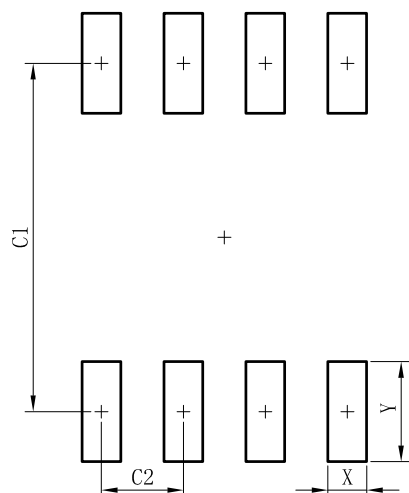


SOP8			
DIM	MIN	NOR	MAX
A	—	—	1.75
A1	0.10	0.15	0.20
A2	1.35	1.45	1.55
b	0.33	0.42	0.51
c	0.15	0.22	0.29
D	4.77	4.90	5.03
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
e	1.27BSC		
L	0.46	0.66	0.86
L1	0.85	1.05	1.25
θ	0°	5°	8°
B	—	—	0.55
H	0	0.05	0.10
All Dimensions in mm			

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.Package Body Sizes Exclude Mold Flash, Protrusion Or Gate Burrs. Mold Flash, Protrusion Or Gate Burrs Shall Not Exceed 0.10 mm Per Side.
- 5.Dimension "b" Does Not Include Dambar Protrusion.

9.SOLDERING FOOTPRINT



SOP8	
DIM	(mm)
X	0.60
Y	1.55
C1	5.40
C2	1.27

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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