

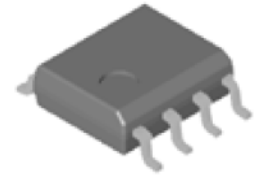
# LP4217T1G

## 20V P-Channel (D-S) MOSFET

SOP-8

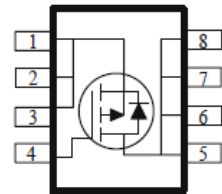
### 1. FEATURES

- $V_{DS} = -20V$   
 $R_{DS(ON)} \leq 26m\Omega, V_{GS@-4.5V}$   
 $R_{DS(ON)} \leq 34m\Omega, V_{GS@-2.5V}$
- 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
LP4217T1G	LP4217	4000/Tape&Reel

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

Parameter	Symbol	Limits	Unit	
Drain-Source Voltage	$V_{DS}$	-20	V	
Gate-Source Voltage	$V_{GS}$	$\pm 10$		
Continuous Drain Current (Note1)	$I_D$	-7	A	
Pulsed Drain Current (Note2)	$I_{DM}$	-30		
Power Dissipation (Note1)	PD	$T_A = 25^\circ C$	2	W
		$T_A = 70^\circ C$	1.5	
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)	$R_{\theta JA}$	60	$^\circ C/W$
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

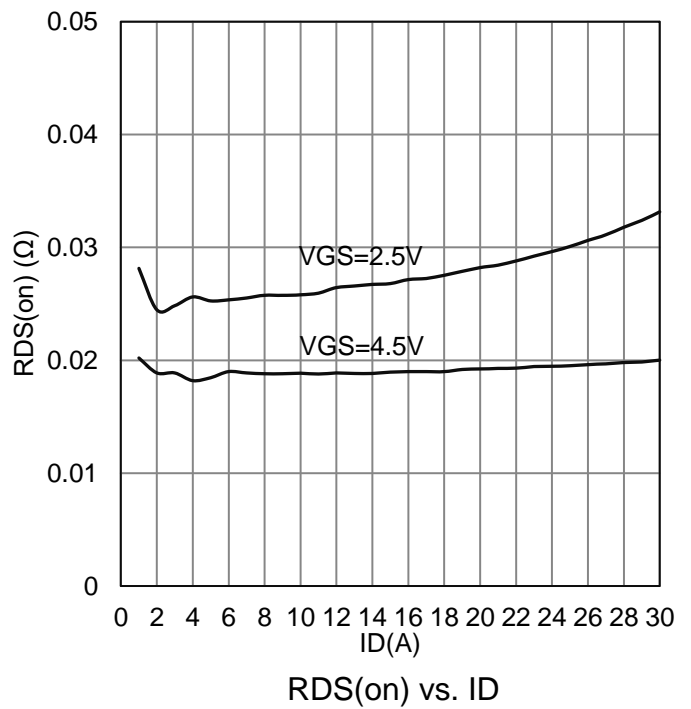
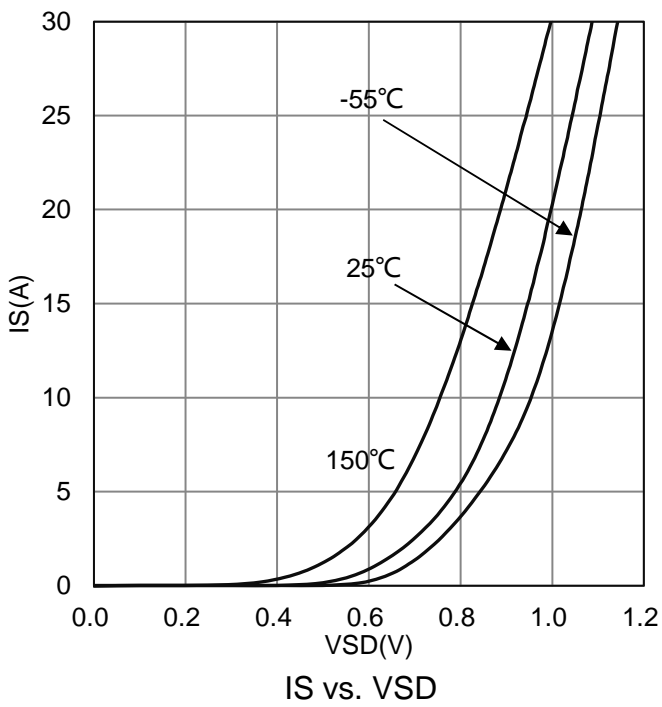
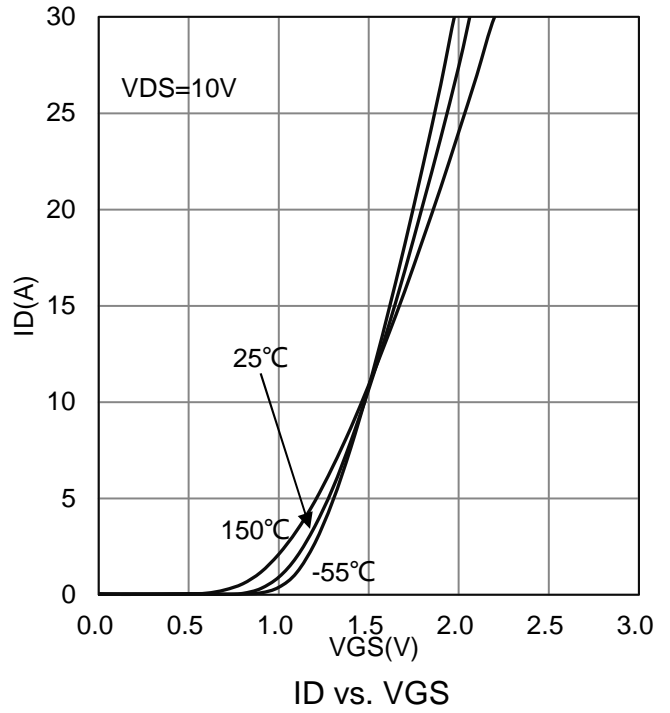
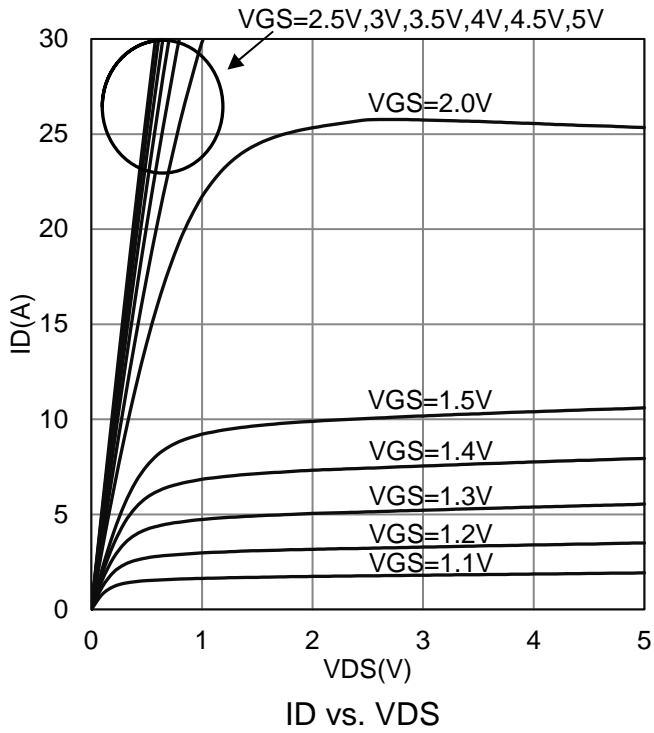
### 6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit	
Static						
Drain-Source Breakdown Voltage (VGS = 0 V, ID = -250 $\mu$ A)	V(BR)DSS	-20	-	-	V	
Gate Threshold Voltage (VDS = VGS, ID = -250 $\mu$ A)	VGS(th)	-0.4	-	-0.9	V	
Gate Leakage Current (VDS = 0 V, VGS = $\pm$ 10 V)	IGSS	-	-	$\pm$ 10	$\mu$ A	
Zero Gate Voltage Drain Current (VDS = -16 V, VGS = 0 V)	IDSS	-	-	-1	$\mu$ A	
Drain-Source On-Resistance(Note 3) (VGS = -4.5 V, ID = -7 A) (VGS = -2.5 V, ID = -5.6 A)	RDS(ON)	-	19 24	26 34	m $\Omega$	
Diode Forward Voltage(Note 3) (IS = -2.5 A, VGS = 0 V)	VSD	-	-	-1.3	V	
Dynamic (Note 4)						
Total Gate Charge	(VDS = -10 V, VGS = -4.5 V, ID = -7 A)	Qg	-	30	-	nC
Gate-Source Charge		Qgs	-	4	-	
Gate-Drain Charge		Qgd	-	6	-	
Turn-On Delay Time	(VDS = -10 V, RL = 1.4 $\Omega$ , ID = -7 A, VGEN = -4.5 V, RGEN = 6 $\Omega$ )	td(on)	-	6	-	ns
Rise Time		tr	-	12	-	
Turn-Off Delay Time		td(off)	-	85	-	
Fall Time		tf	-	35	-	
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	1629	-	pF
Output Capacitance		Coss	-	198	-	
Reverse Transfer Capacitance		Crss	-	192	-	

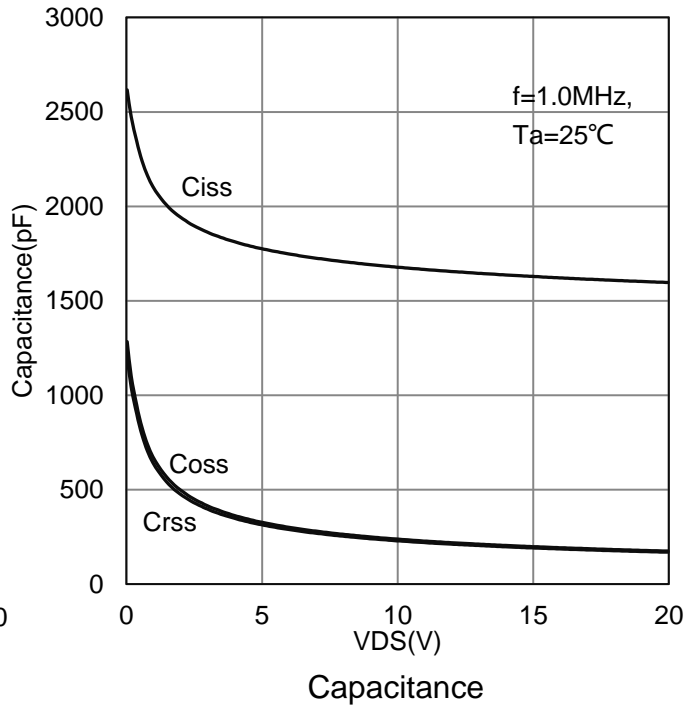
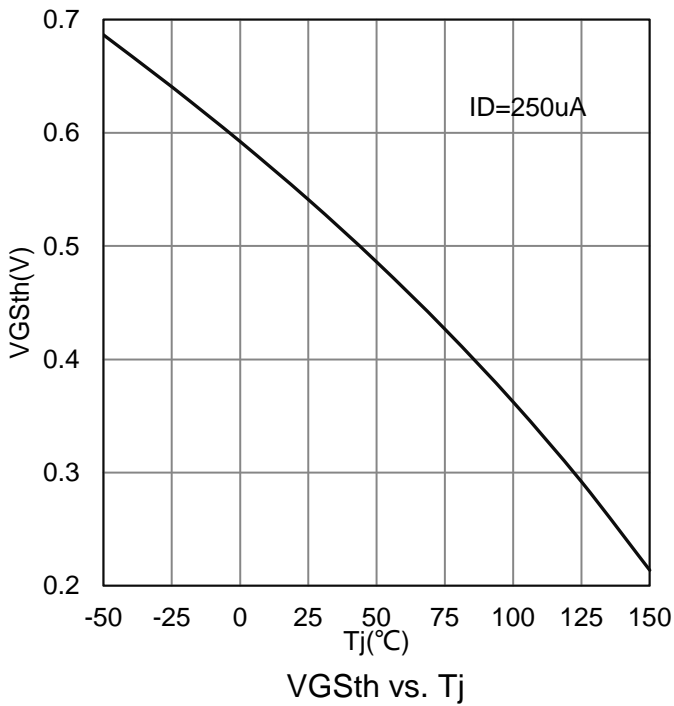
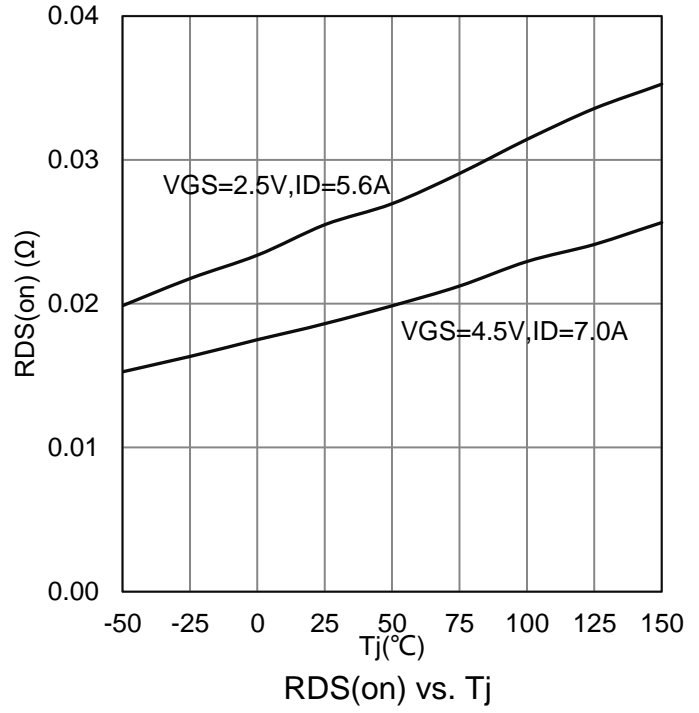
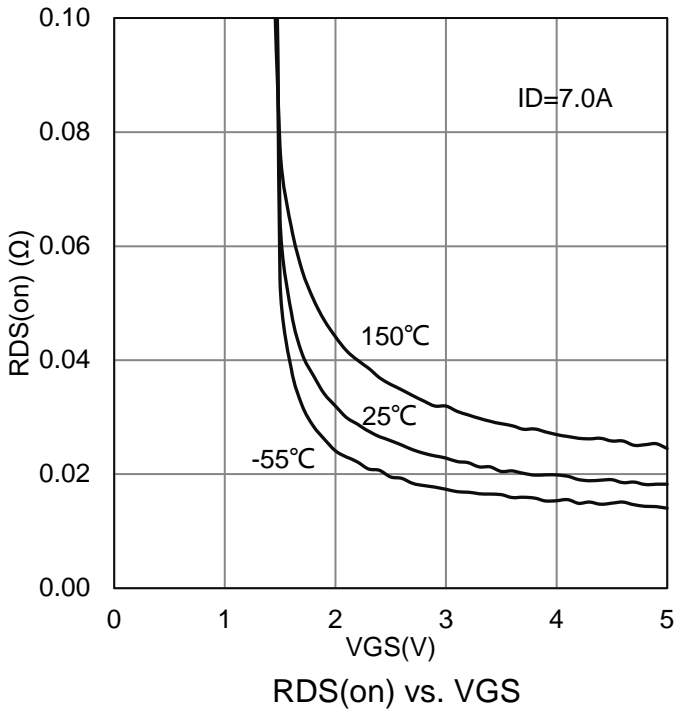
3. Pulse test; pulse width  $\leq$  300 $\mu$ s, duty cycle  $\leq$  2%

4. Guaranteed by design, not subject to production testing.

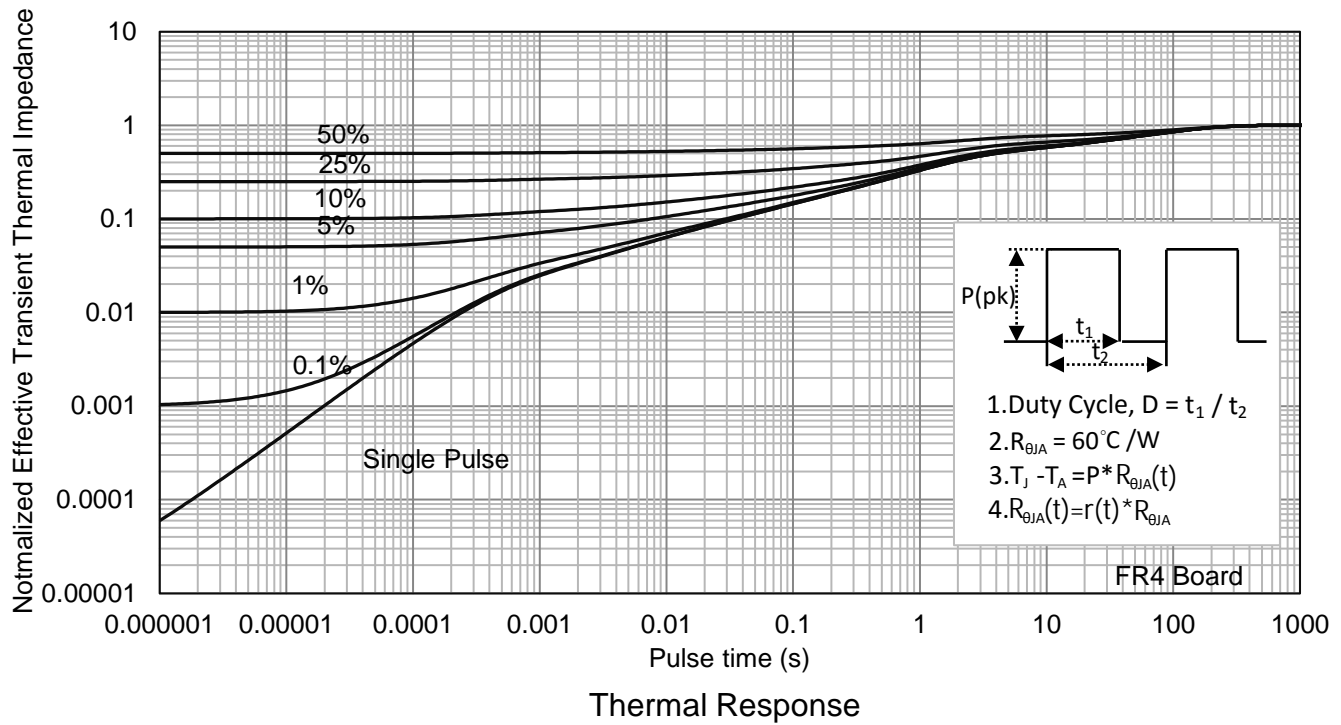
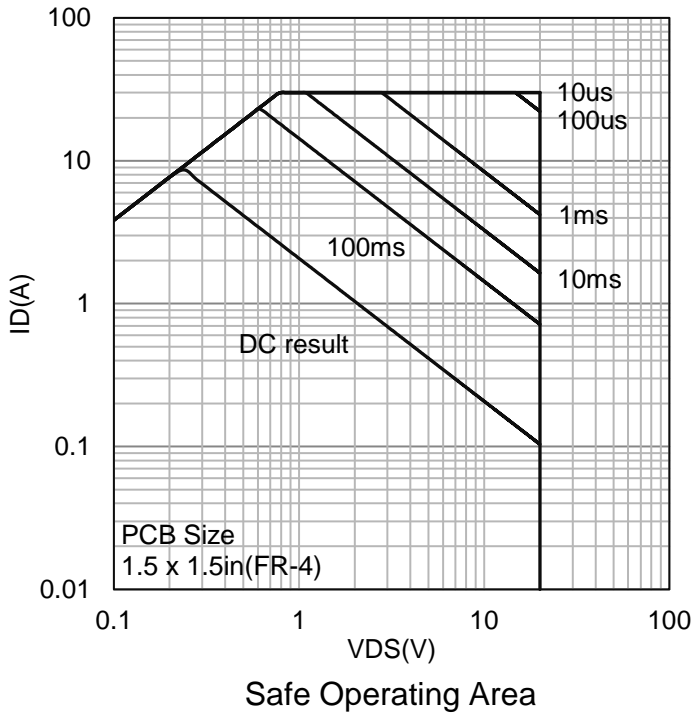
**7. ELECTRICAL CHARACTERISTICS CURVES**



**7. ELECTRICAL CHARACTERISTICS CURVES(Con.)**

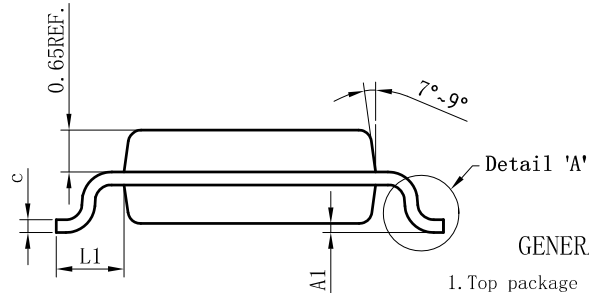
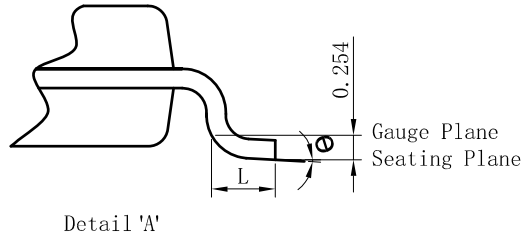
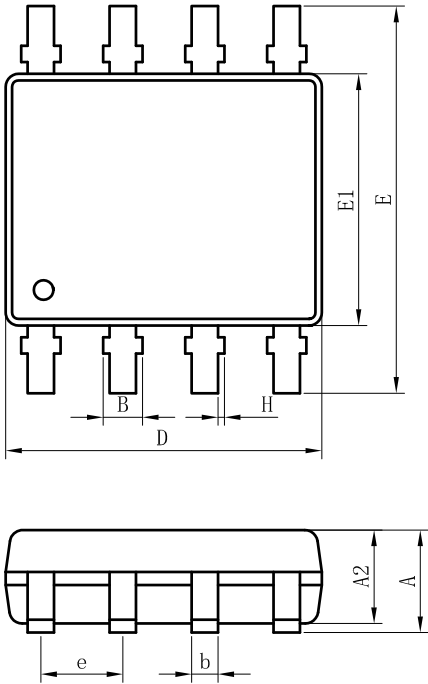


### 7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



**8. OUTLINE AND DIMENSIONS**

SOP8

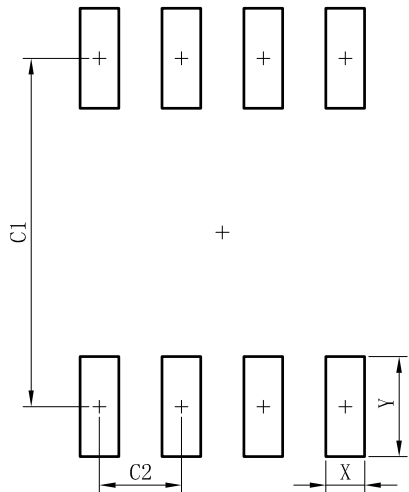


SOP8			
DIM	MIN	NOR	MAX
A	-	-	1.75
A1	0.10	0.15	0.20
A2	1.35	1.45	1.55
b	0.33	0.42	0.51
c	0.15	0.22	0.29
D	4.77	4.90	5.03
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
e	1.27BSC		
L	0.46	0.66	0.86
L1	0.85	1.05	1.25
θ	0°	5°	8°
B	-	-	0.55
H	0	0.05	0.10
All Dimensions in mm			

**GENERAL NOTES**

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um
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

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