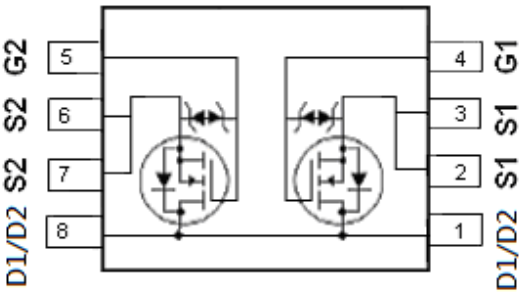
Dual N-Channel Enhancement Mode MOSFET

Features:

- 1.8V drive available
- Low on-resistance
- Fast switching speed
- Pb-free lead plating and halogen-free package



G：Gate S : Source D : Drain

BV_{DSS}	20V
$I_{D@TA=25°C, VGS=4.5V}$	5A
$R_{DSON@VGS=4.5V, ID=5A}$	17.5mΩ (typ)
$R_{DSON@VGS=2.5V, ID=2.6A}$	25mΩ (typ)
$R_{DSON@VGS=1.8V, ID=1A}$	41mΩ (typ)

Ordering Information

Device	Package	Shipping
KWDN8810AT	TSSOP-8 (Pb-free lead plating and halogen-free package)	3000 pcs/ Tape & Reel

Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Limits	Unit
Drain-Source Breakdown Voltage		BV_{DSS}	20	V
Gate-Source Voltage		V_{GS}	±8	
Continuous Drain Current (Note 1)	T_A=25°C, V_{GS}=4.5V	I_D	5	A
	T_A=70°C, V_{GS}=4.5V		4	
Pulsed Drain Current (Note 2)		I_{DM}	20	
Total Power Dissipation (Note 1)	T_A=25°C	P_D	1	W
	T_A=70°C		0.64	
Operating Junction and Storage Temperature Range		Tj ; Tstg	-55~+150	°C
Thermal Resistance, Junction-to-Ambient (Note 1)		Rth,ja	125	°C/W

Note : 1.Surface mounted on 1 in ² copper pad of FR-4 board, t≤10sec. The value in any given application depends on the user's specific board design.
2.Pulse width ≤300μs, Duty Cycle≤2%

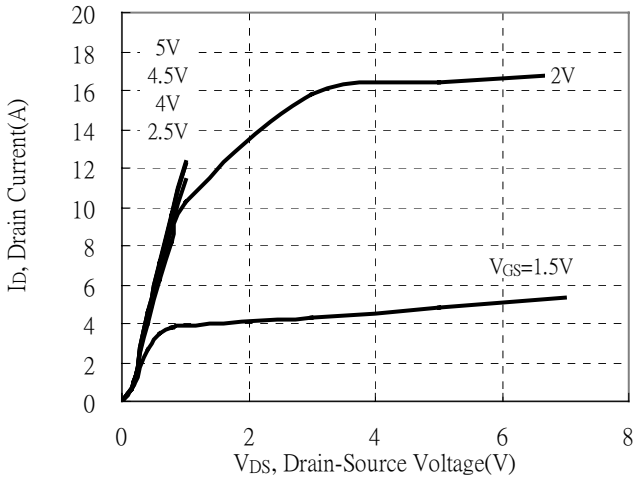
Electrical Characteristics (Tj=25°C, unless otherwise specified)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static					
BV_{DSS}	20	-	-	V	V_{GS}=0, I_D=250μA
$V_{GS(th)}$	0.4	0.75	1.0	V	V_{DS}=V_{GS}, I_D=250μA
I_{GSS}	-	-	±20	μA	V_{GS}=±8V, V_{DS}=0
I_{DSS}	-	-	1		V_{DS}=20V, V_{GS}=0
	-	-	25		V_{DS}=16V, V_{GS}=0, Tj=125°C
*$R_{DS(ON)}$	-	17.5	28	mΩ	I_D=5A, V_{GS}=4.5V
	-	25	40		I_D=2.6A, V_{GS}=2.5V
	-	41	60		I_D=1A, V_{GS}=1.8V
*G_{FS}	-	10	-	S	V_{DS}=5V, I_D=5A
Dynamic					
Ciss	-	509	-	pF	V_{DS}=10V, V_{GS}=0, f=1MHz
Coss	-	100	-		
Crss	-	81	-		
*$t_{d(ON)}$	-	5	-	ns	V_{DD}=10V, I_D=1A, V_{GS}=4.5V, R_G=6Ω
*t_r	-	11	-		
*$t_{d(OFF)}$	-	22	-		
*t_f	-	18	-		
*Qg	-	7	-	nC	V_{DS}=10V, V_{GS}=4.5V, I_D=5A
*Qgs	-	0.9	-		
*Qgd	-	2.4	-		
Source Drain Diode					
*I_S	-	-	5	A	
*I_{SM}	-	-	20		
*V_{SD}	-	0.77	1.2	V	V_{GS}=0V, I_S=1.2A
*trr	-	14	-	ns	I_F=5A, dI_F/dt=100A/μs
*Qrr	-	7	-	nC	

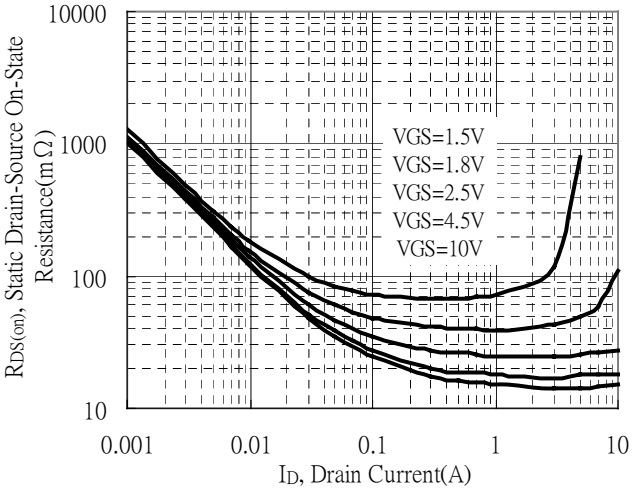
*Pulse Test : Pulse Width ≤300μs, Duty Cycle≤2%

Typical Characteristics

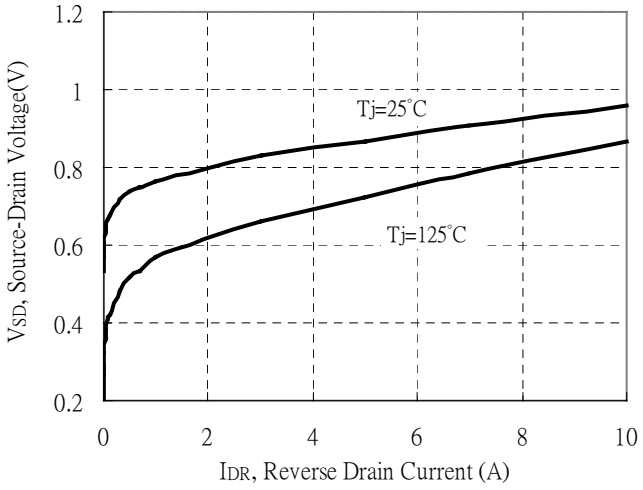
Typical Output Characteristics



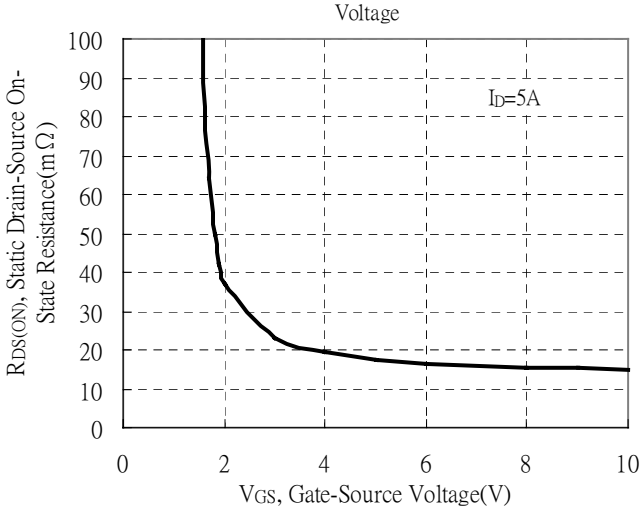
Static Drain-Source On-State resistance vs Drain Current



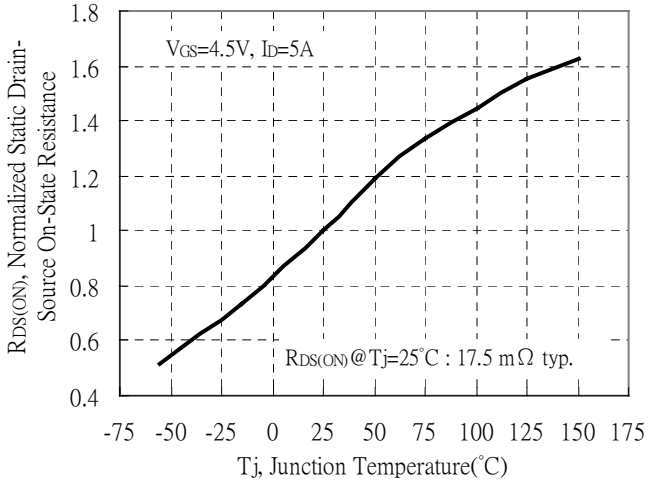
Reverse Drain Current vs Source-Drain Voltage



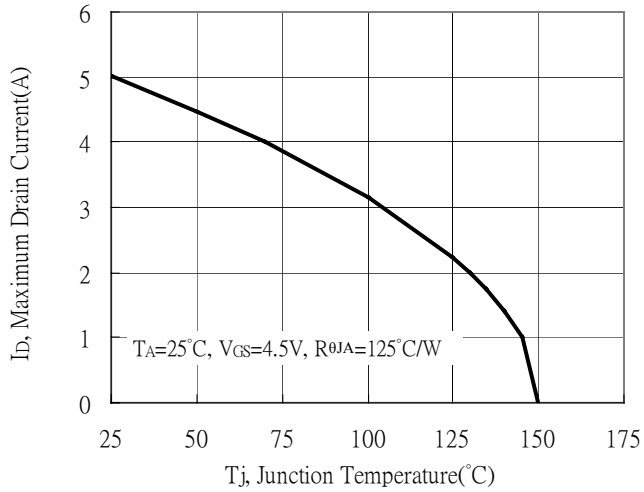
Static Drain-Source On-State Resistance vs Gate-Source Voltage



Drain-Source On-State Resistance vs Junction Tempearture

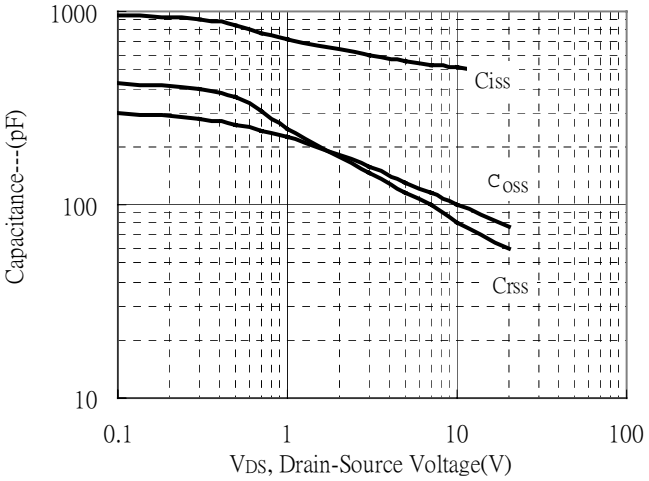


Maximum Drain Current vs Junction Temperature

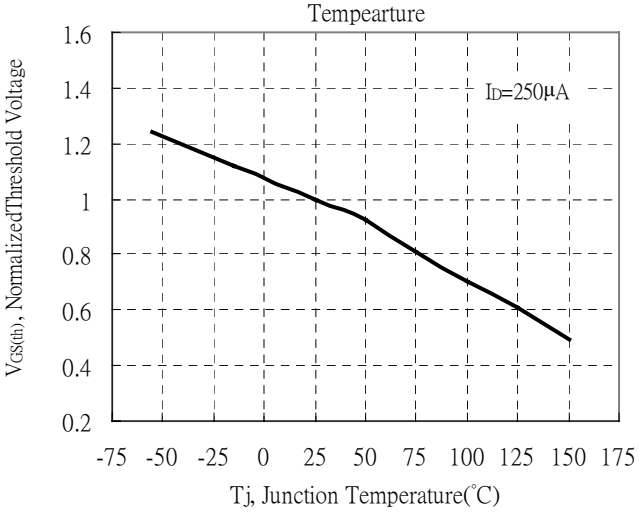


Typical Characteristics(Cont.)

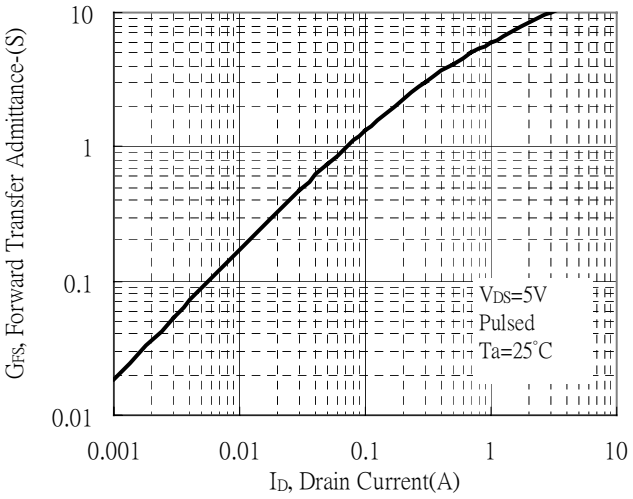
Capacitance vs Drain-to-Source Voltage



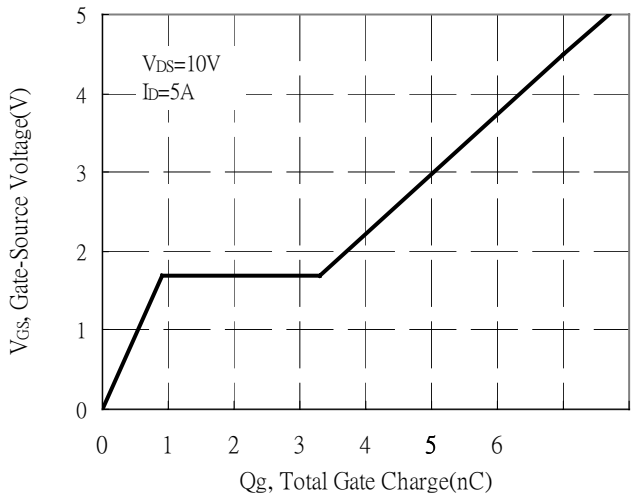
Normalized Threshold Voltage vs Junction Tempearture



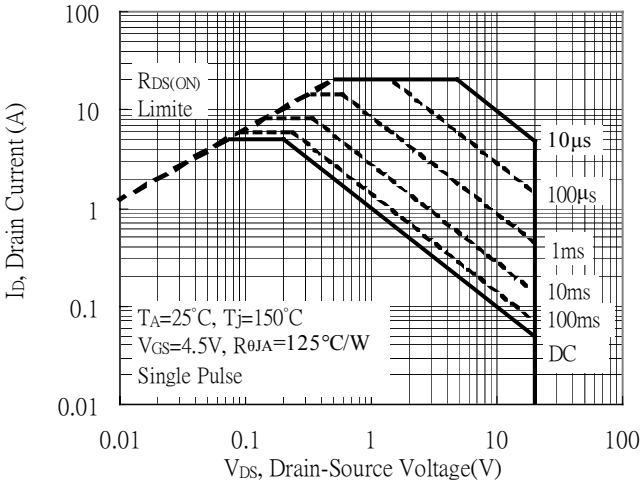
Forward Transfer Admittance vs Drain Current



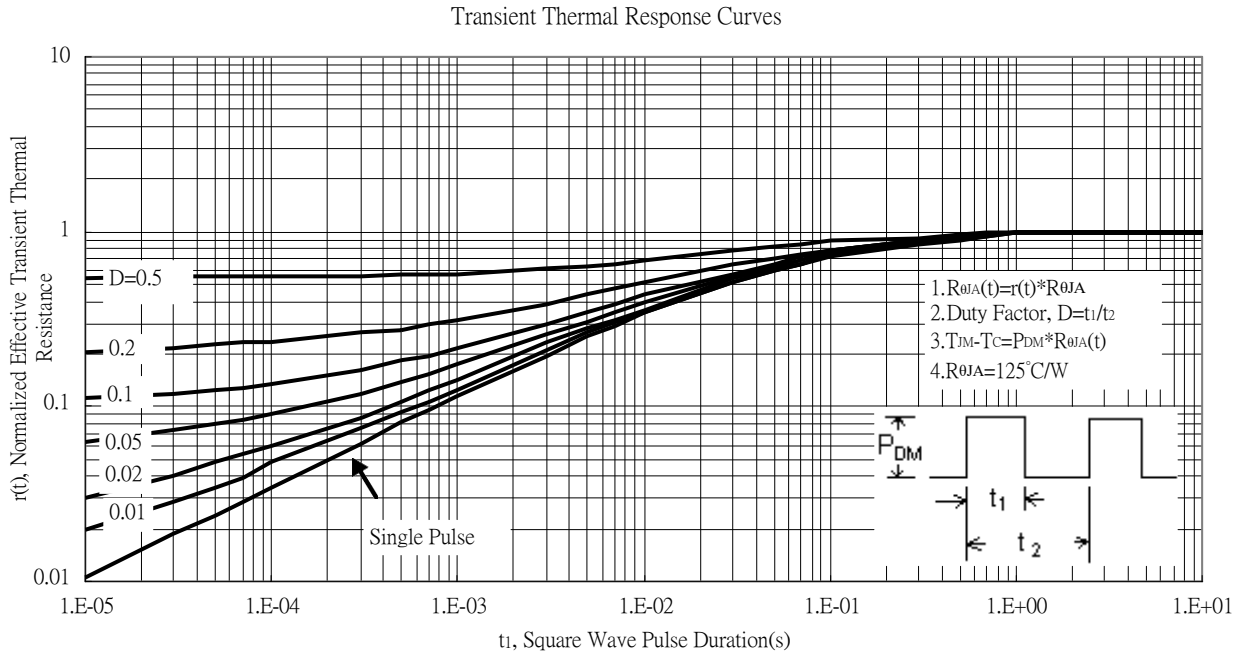
Gate Charge Characteristics



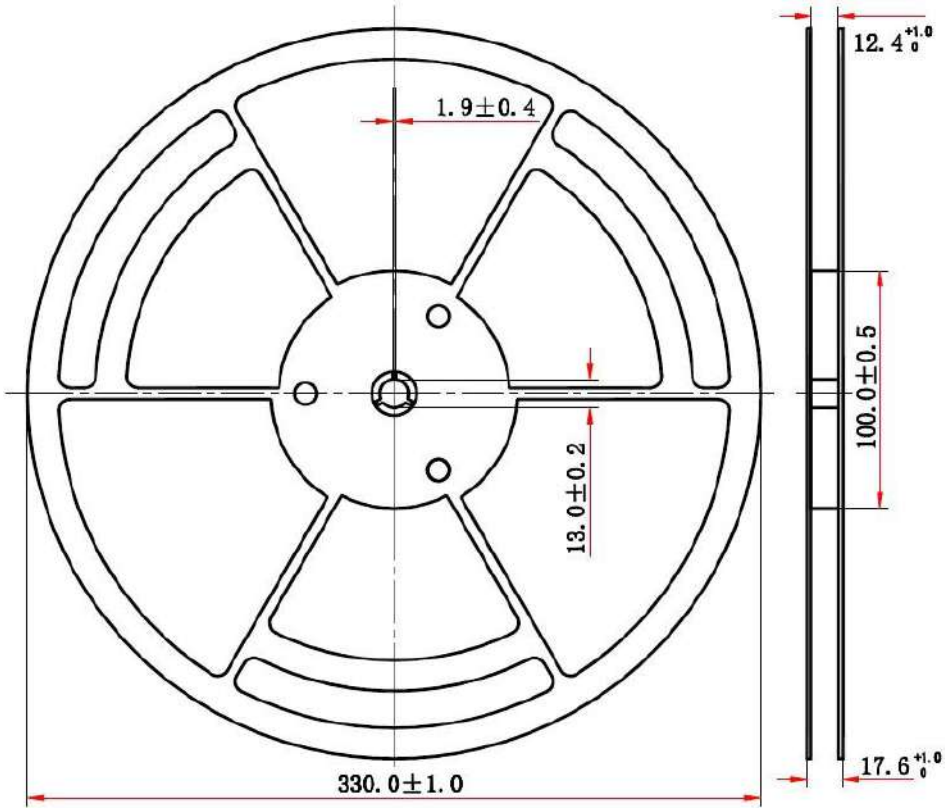
Maximum Safe Operating Area



Typical Characteristics(Cont.)

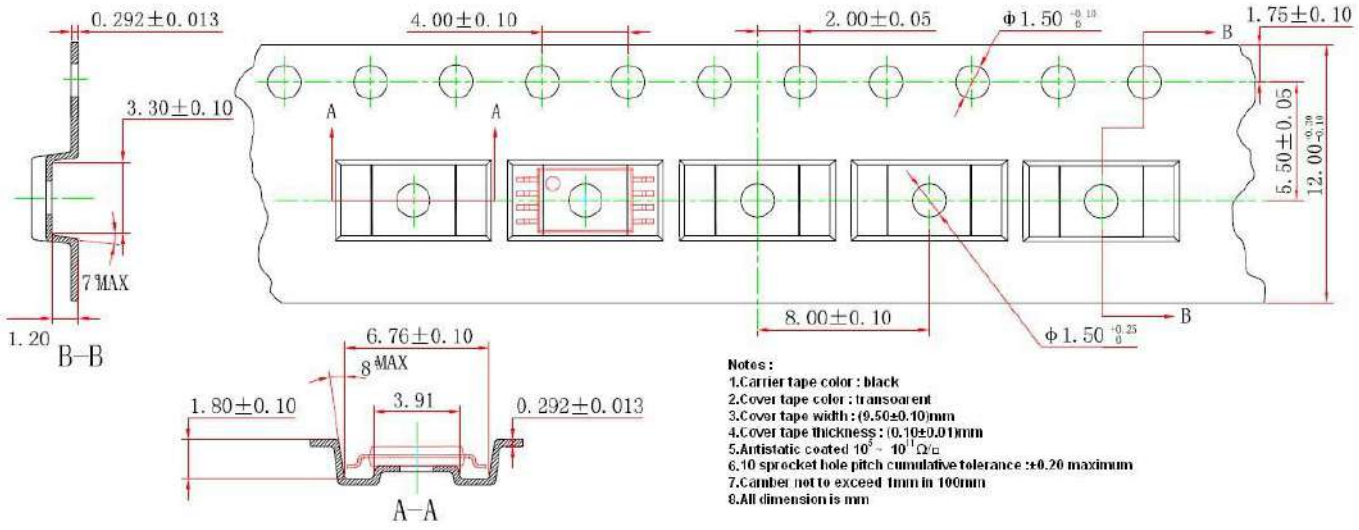


Reel Dimension



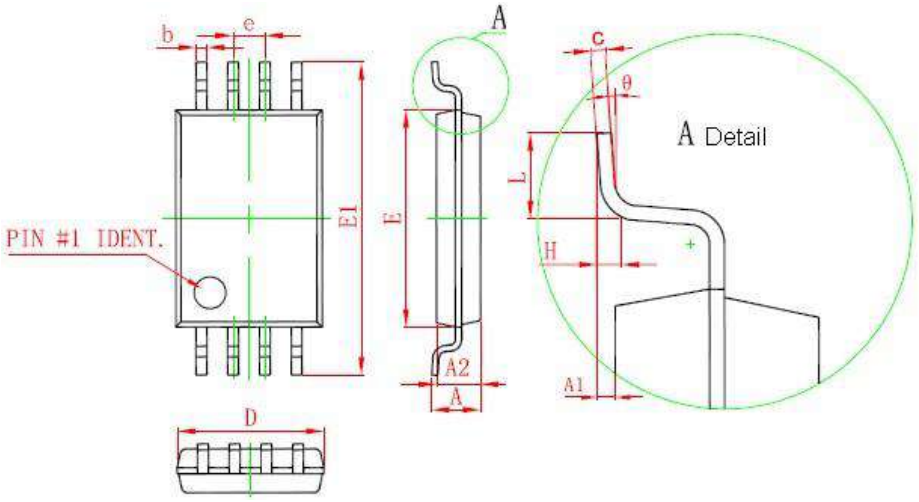
Notes :
1.Material : Anti-static polystyrene
2.Surface resistivity : 10 Ω/□
Unit : mm

Carrier Tape Dimension

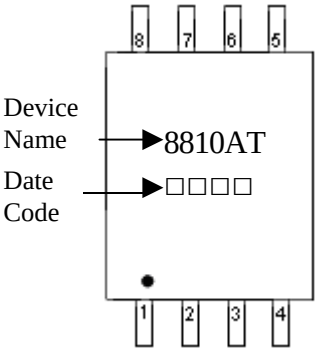


Notes :
1.Carrier tape color : black
2.Cover tape color : transparent
3.Cover tape width : (9.50±0.10)mm
4.Cover tape thickness : (0.10±0.01)mm
5.Antistatic coated 10^{5} ~ 10^{11} Ω/□
6.10 sprocket hole pitch cumulative tolerance :±0.20 maximum
7.Camber not to exceed 1mm in 100mm
8.All dimension is mm

TSSOP-8 Dimension



Marking:



8-Lead TSSOP-8 Plastic Package

*: Typical

DIM	Millimeters		Inches		DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	-	1.200	-	0.047	E	4.300	4.500	0.169	0.177
A1	0.020	0.150	0.001	0.006	E1	6.250	6.550	0.246	0.258
A2	0.800	1.000	0.031	0.039	e	0.650 (BSC)		0.026 (BSC)	
b	0.190	0.300	0.007	0.012	L	0.500	0.700	0.020	0.028
c	0.090	0.200	0.004	0.008	H	0.250*		0.010*	
D	2.900	3.100	0.114	0.122	θ	1°	7°	1°	7°

Notes: 1.Controlling dimension: millimeters.