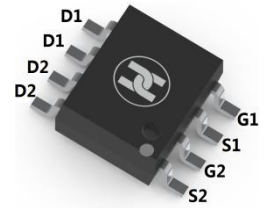
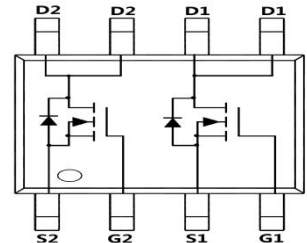


**HIGH VOLTAGE MOSFET (DUAL N-CHANNEL)**
**FEATURES**

- Low on-resistance:  $V_{DS}=100V, I_D=2.1A, R_{DS(ON)} \leq 0.25\Omega @ V_{GS}=10V$
- Low threshold and Low gate drive and Fast Switching Speed
- For DC-DC Converters and Power Management Functions
- For Disconnect switches and Motor control Functions
- Surface Mount device


**SOP-8**

**MECHANICAL DATA**

- Case: SOP-8
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.3 grams (approximate)

**MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$  unless otherwise noted)**

Parameter	Symbol	Value	Unit	
Drain-source voltage	$V_{DS}$	100	V	
Gate-source voltage	$V_{GS}$	$\pm 20$	V	
Continuous drain current, $V_{GS} = 10V$	$I_D$	$T_A = 25^\circ\text{C}(2)$	2.1	A
		$T_A = 70^\circ\text{C}(2)$	1.7	A
		$T_A = 25^\circ\text{C}(1)$	1.6	A
Pulsed drain current(3)	$I_{DM}$	9	A	
Maximum Continuous Body Diode Forward Current (2)	$I_S$	2.6	A	
Pulsed source current (body diode) (3)	$I_{SM}$	9	A	
Power dissipation(1)	$P_D$	1.25	W	
Thermal resistance from Junction to ambient (1)	$R_{\theta JA}$	100	$^\circ\text{C/W}$	
Power dissipation(2)	$P_D$	1.8	W	
Thermal resistance from Junction to ambient (2)	$R_{\theta JA}$	69	$^\circ\text{C/W}$	
Operating and Storage temperature	$T_J, T_{STG}$	-55 ~ +150	$^\circ\text{C}$	

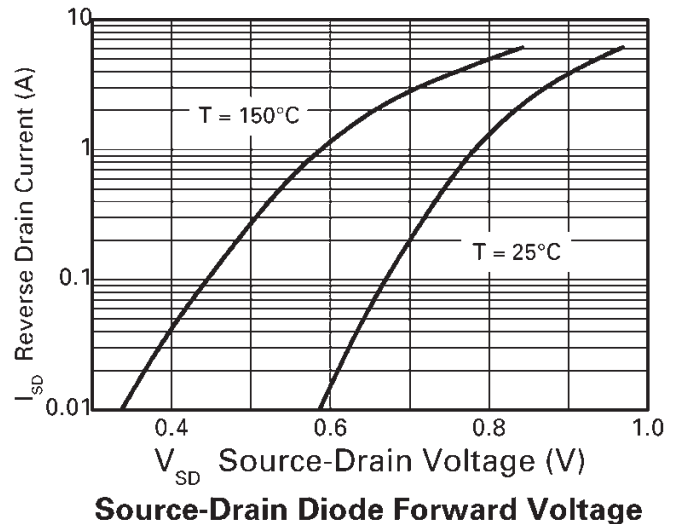
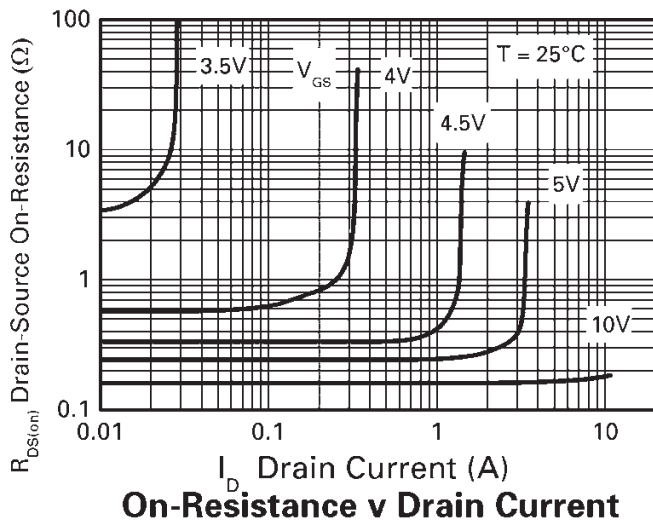
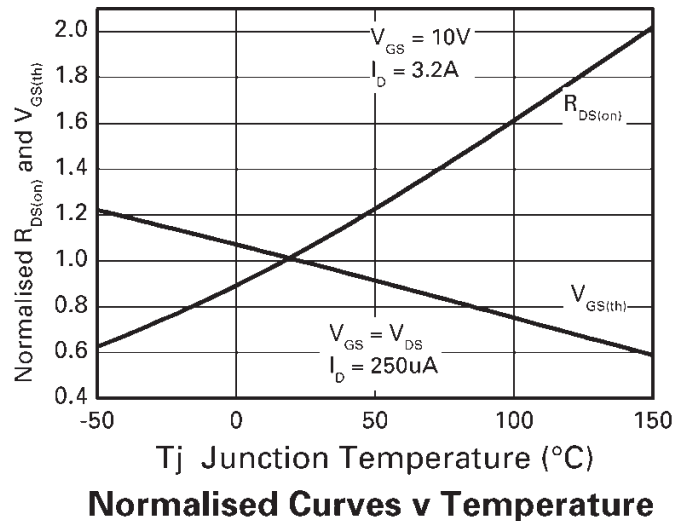
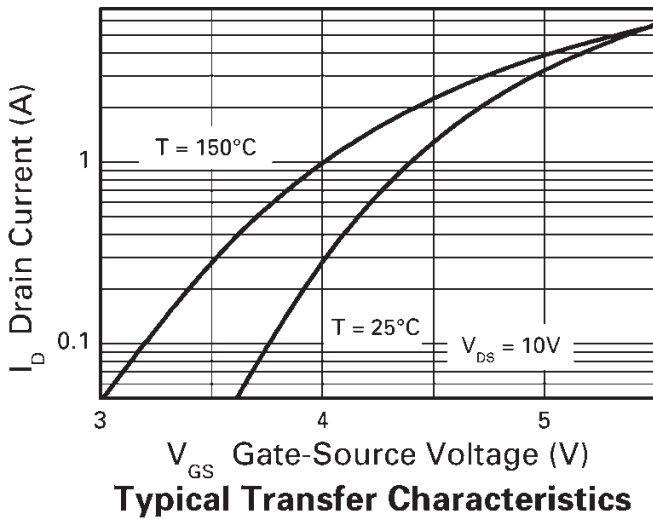
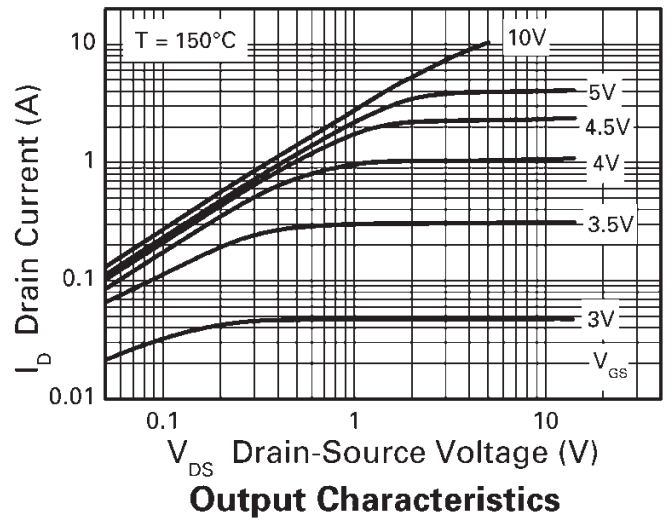
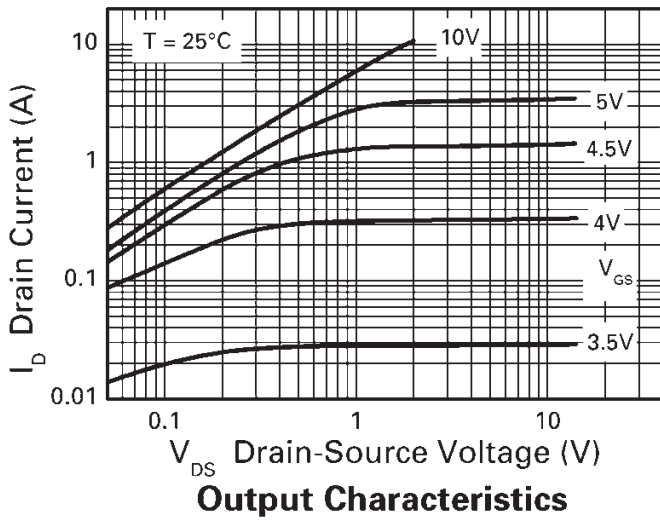
**ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$  unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Drain-Source breakdown voltage	$V_{(BR)DSS}$	100			V	$V_{GS}=0V, I_D=250\mu A$
Zero gate voltage drain current	$I_{DSS}$			0.5	$\mu A$	$V_{DS}=100V, V_{GS}=0V$
Gate-body leakage current	$I_{GSS}$			$\pm 100$	nA	$V_{DS}=0V, V_{GS}=\pm 20V$
Gate-threshold voltage	$V_{GS(th)}$	2.0			V	$V_{DS}=V_{GS}, I_D=250\mu A$
Drain-source on-resistance (4)	$R_{DS(ON)}$			0.25	m $\Omega$	$V_{GS}=10V, I_D=3.2A$
				0.30	m $\Omega$	$V_{GS}=6V, I_D=2.6A$
Forward transconductance (4)(6)	$g_{fs}$		5.0		S	$V_{DS}=15V, I_D=3.2A$
Diode forward voltage (4)	$V_{SD}$		0.87	0.95	V	$I_S=3.2A, V_{GS}=0V$
Input capacitance(6)	$C_{iss}$		405		pF	$V_{DS}=50V, V_{GS}=0V, f=1\text{MHz}$
Output capacitance(6)	$C_{oss}$		28.2		pF	
Reverse transfer capacitance(6)	$C_{rss}$		14.2		pF	
Total gate charge(5,6)	$Q_g$		4.2		nC	$V_{DS}=50V, V_{GS}=5V, I_D=1.2A$
			7.7		nC	$V_{DS}=50V, V_{GS}=10V, I_D=1.2A$
Gate-source charge(5,6)	$Q_{gs}$		1.8		nC	
Gate-drain charge(5,6)	$Q_{gd}$		2.1		nC	
Turn-on delay time(5,6)	$t_{d(on)}$		3.4		nS	$V_{DD}=30V, V_{GS}=10V$ $I_D=1.2A, R_g=6\Omega$
Turn-on rise time(5,6)	$t_r$		2.2		nS	
Turn-off delay time(5,6)	$t_{d(off)}$		8		nS	
Turn-off fall time(5,6)	$t_f$		3.2		nS	
Body Diode Reverse Recovery Time(6)	$t_{rr}$		27		nS	$I_F=1.2A, di/dt=100A/\mu s$
Body Diode Reverse Recovery Charge(6)	$Q_{rr}$		32		nC	

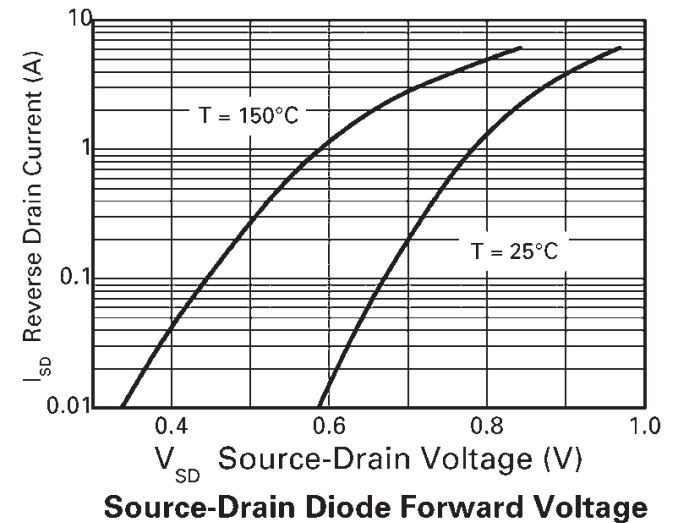
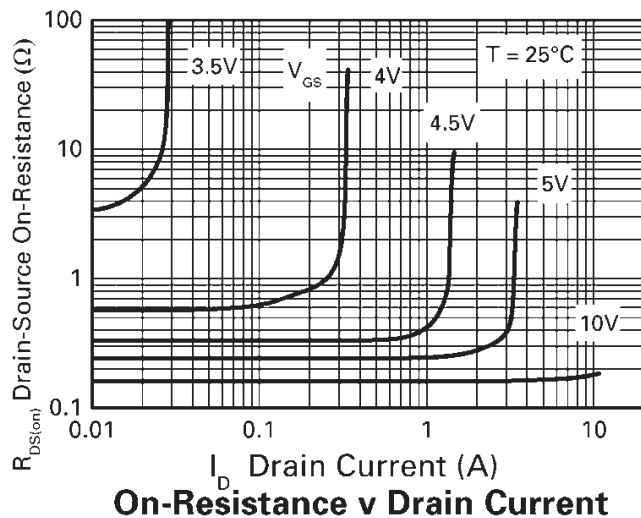
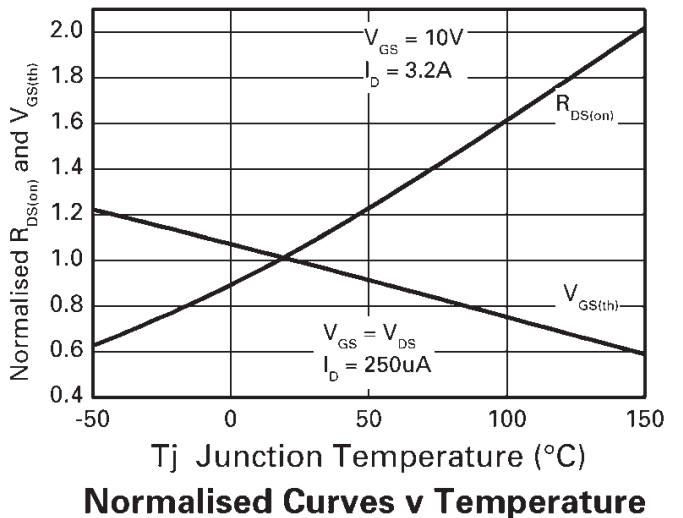
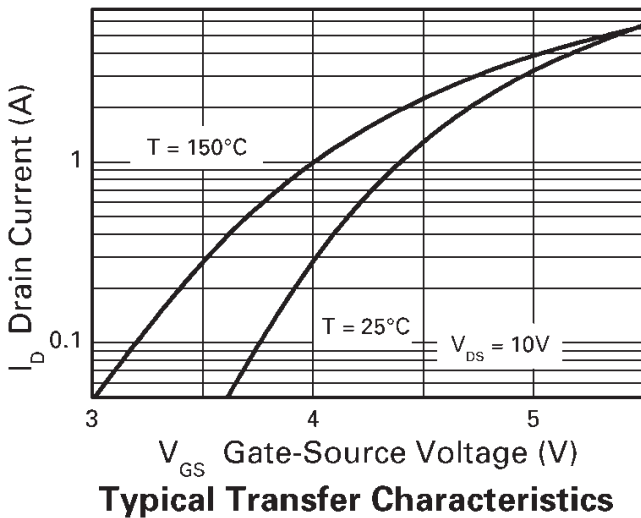
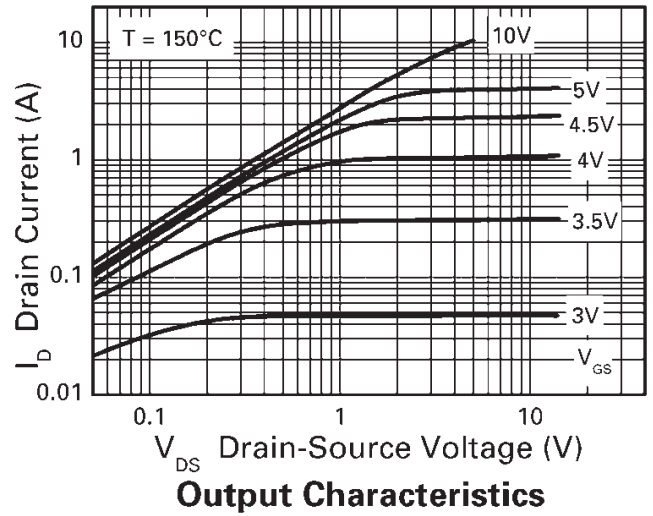
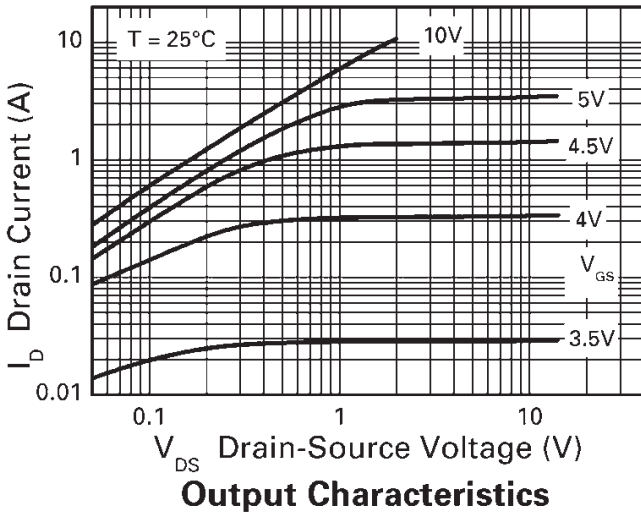
- NOTES: (1) For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions  
(2) For a device surface mounted on FR4 PCB measured at  $t \leq 5$  secs.  
(3) Repetitive rating 25mm x 25mm FR4 PCB,  $D = 0.02$ , pulse width 300 $\mu s$  - pulse width limited by maximum junction temperature.  
Refer to Transient Thermal Impedance graph  
(4) Measured under pulsed conditions. Width = 300 $\mu s$ . Duty cycle  $\leq 2\%$ .  
(5) Switching characteristics are independent of operating junction temperature.  
(6) For design aid only, not subject to production testing.

**HIGH VOLTAGE MOSFET (DUAL N-CHANNEL)**

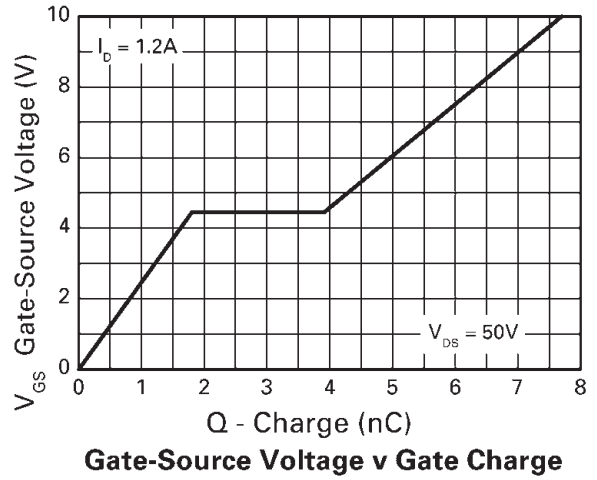
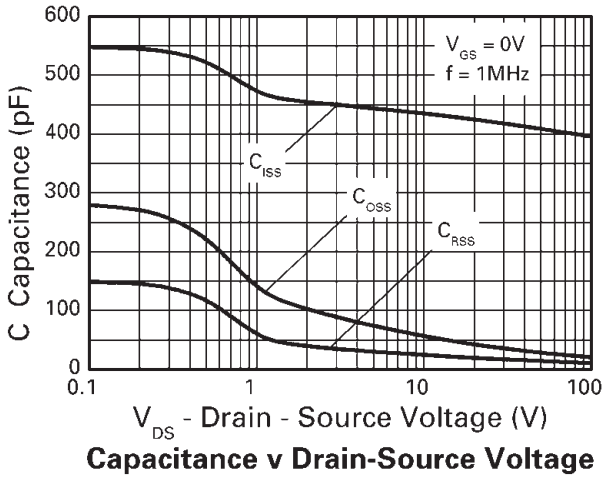
**TYPICAL CHARACTERISTICS**



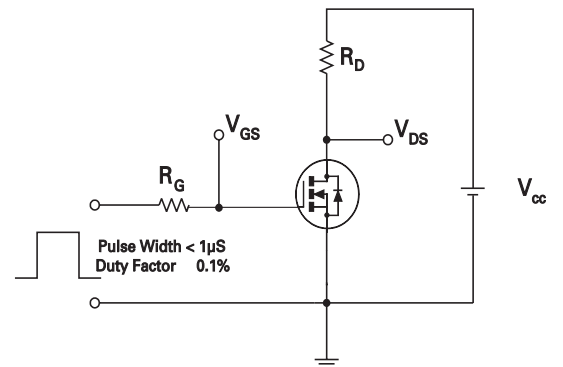
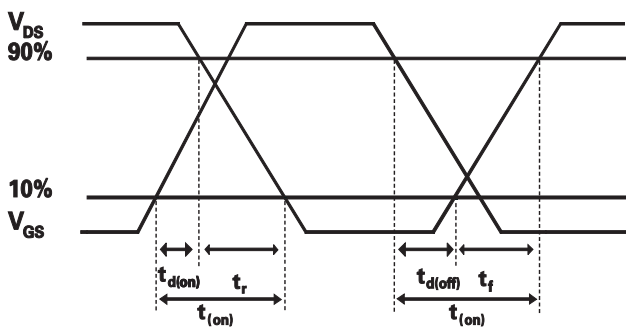
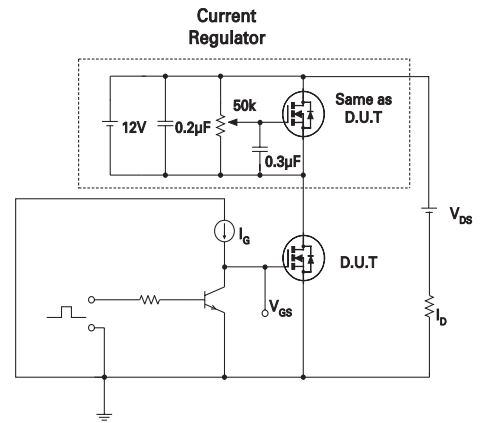
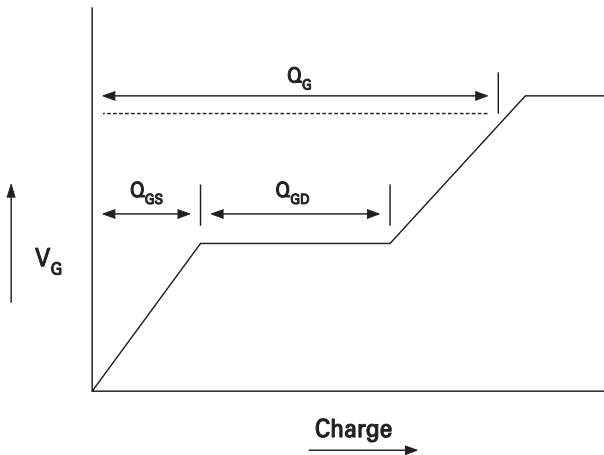
**HIGH VOLTAGE MOSFET (DUAL N-CHANNEL)**

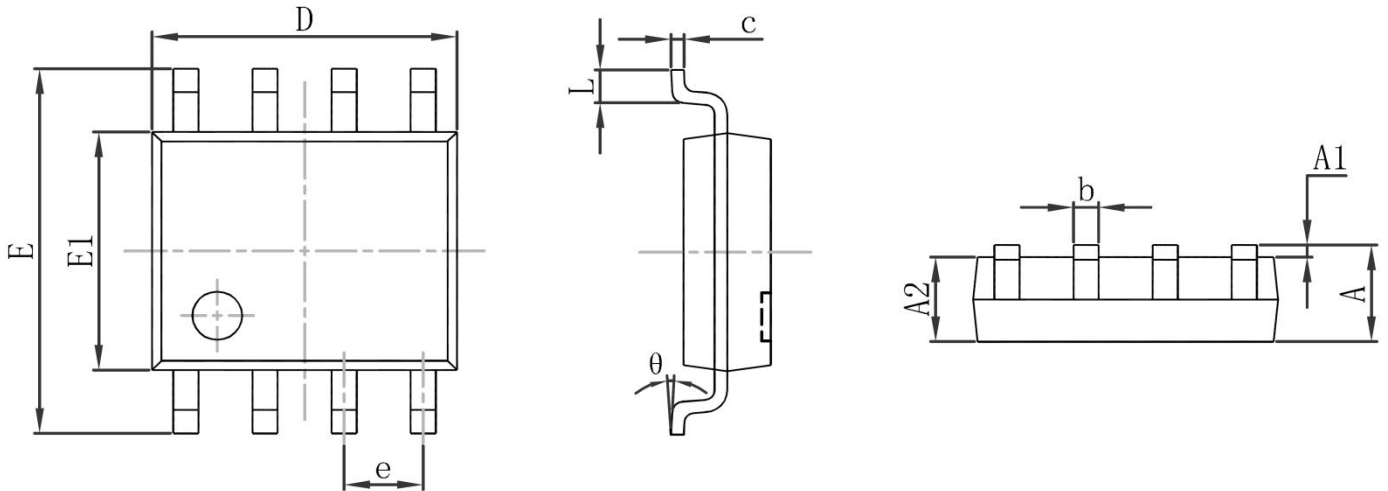


**HIGH VOLTAGE MOSFET (DUAL N-CHANNEL)**

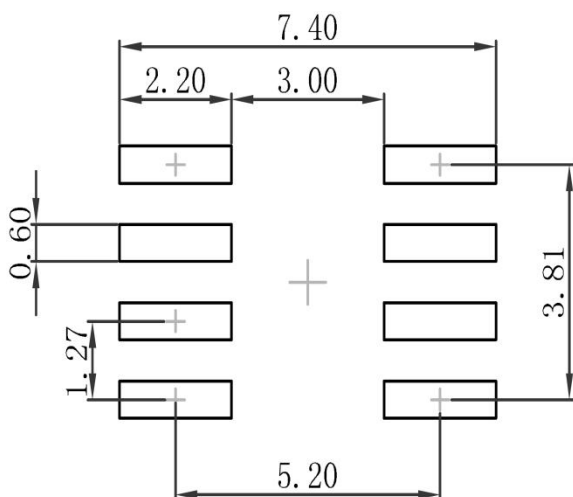


**Test Circuit**

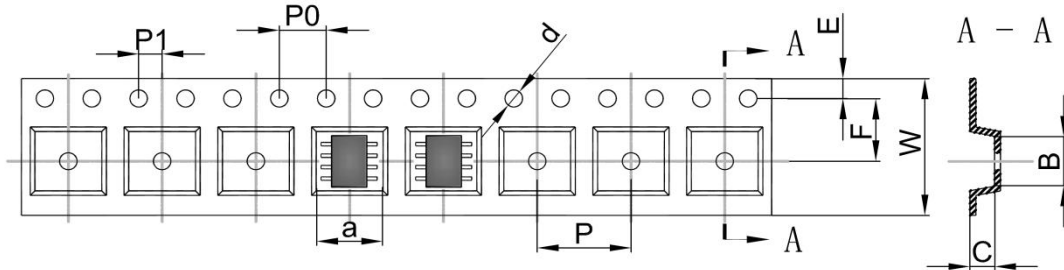


**HIGH VOLTAGE MOSFET (DUAL N-CHANNEL)**
**SOP-8 Package Outline Dimensions**


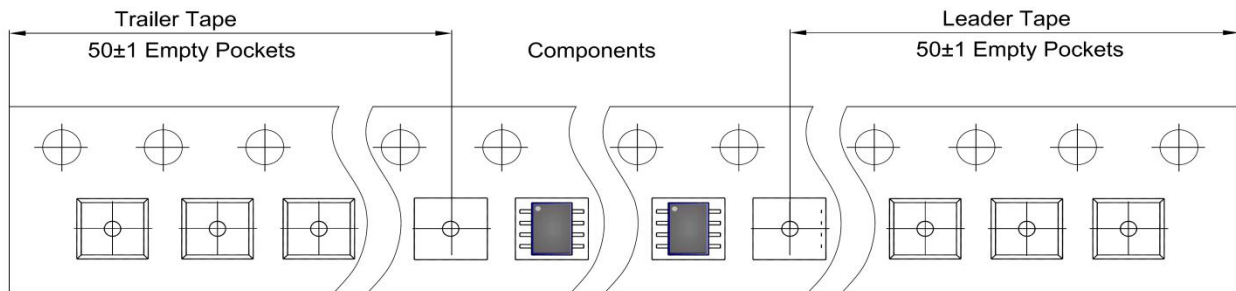
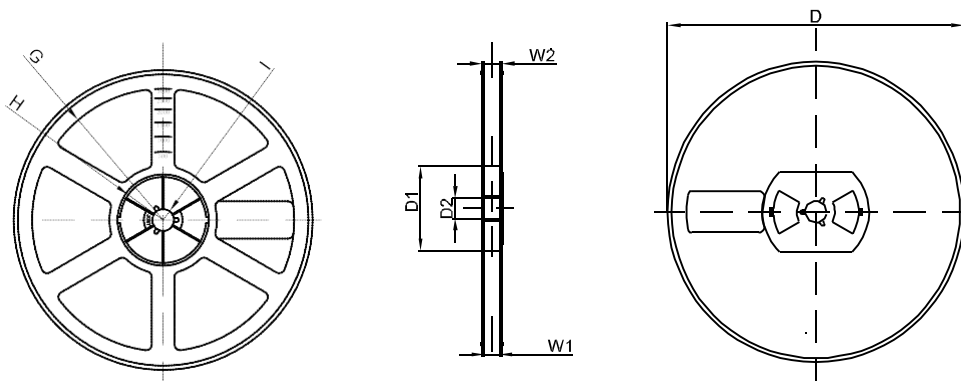
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270(BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
$\theta$	0°	8°	0°	8°

**SOP-8 Suggested Pad Layout**

**Note:**

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

**HIGH VOLTAGE MOSFET (DUAL N-CHANNEL)**
**SOP-8 Tape and Reel**
**SOP-8 Embossed Carrier Tape**


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOP-8	6.40	5.40	2.10	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**SOP-8 Tape Leader and Trailer**

**SOP-8 Reel**


DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13" DIA	Ø330.00	100.00	13.00	R151.00	R56.00	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1