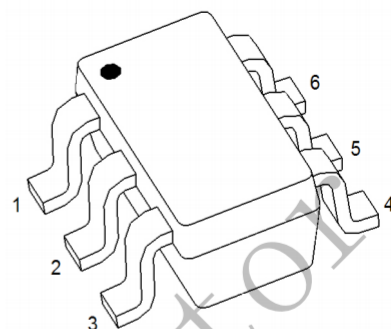


P-channel

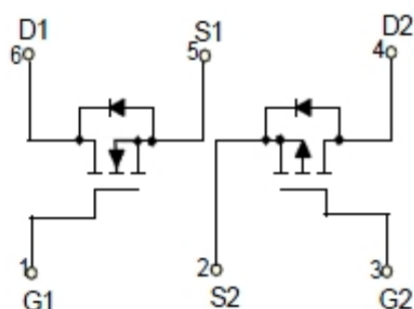
$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-30V	135m Ω @-10V	-2.3A
	185m Ω @-4.5V	
	265m Ω @-2.5V	



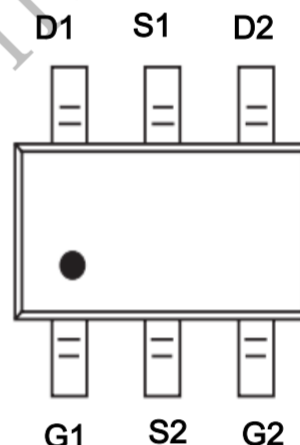
N-channel

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	60m Ω @10V	3.4A
	75m Ω @4.5V	
	115m Ω @2.5V	

SOT-23-6L



Equivalent Circuit



MARKING

Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value		Unit
		N-channel	P-channel	
Drain-Source Voltage	V_{DS}	30	-30	V
Gate-Source Voltage	V_{GS}	± 12	± 12	V
Continuous Drain Current ⁽¹⁾	I_D	3.4	-2.3	A
Pulsed Drain Current ⁽²⁾	I_{DM}	30	-30	A
Power Dissipation	P_D	0.35	0.35	W
Thermal Resistance from Junction to Ambient ⁽¹⁾	$R_{\theta JA}$	357	357	$^{\circ}\text{C/W}$
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	-55~+150	$^{\circ}\text{C}$

■ MOSFET ELECTRICAL CHARACTERISTICS

N-channel MOSFET Electrical Characteristics (TA=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 24V, V_{GS} = 0V$			1	μA
Gate-source leakage current (note1)	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	nA
Drain-source on-resistance (note1)	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 3A$		45	60	m Ω
		$V_{GS} = 4.5V, I_D = 3A$		50	75	m Ω
		$V_{GS} = 2.5V, I_D = 2A$		60	115	m Ω
Forward tranconductance (note1)	g_{FS}	$V_{DS} = 5V, I_D = 3A$	5			S
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.6		1.4	V
Diode forward voltage (note1)	V_{SD}	$I_S = 1A, V_{GS} = 0V$			1	V
Dynamic characteristics (note2)						
Input capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		390		pF
Output capacitance	C_{oss}			54.5		pF
Reverse transfer capacitance	C_{rss}			41		pF
Gate resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		3		Ω
Switching Characteristics (note2)						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 10V, V_{DS} = 15V, R_L = 5\Omega, R_{GEN} = 6\Omega$		4		ns
Turn-on rise time	t_r			2		ns
Turn-off delay time	$t_{d(off)}$			22		ns
Turn-off fall time	t_f			3		ns

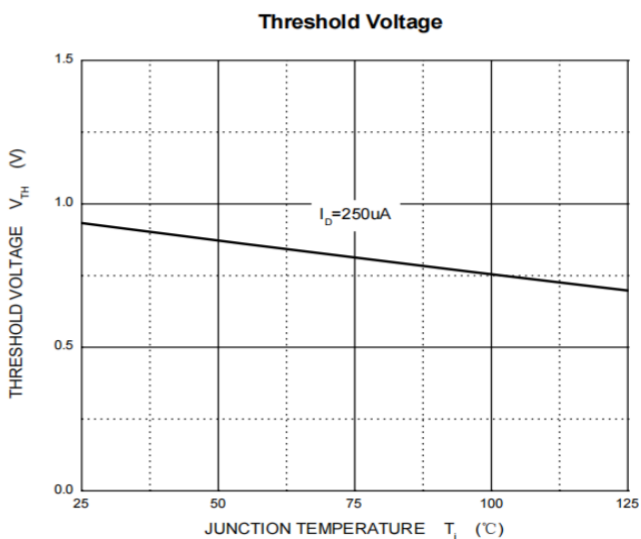
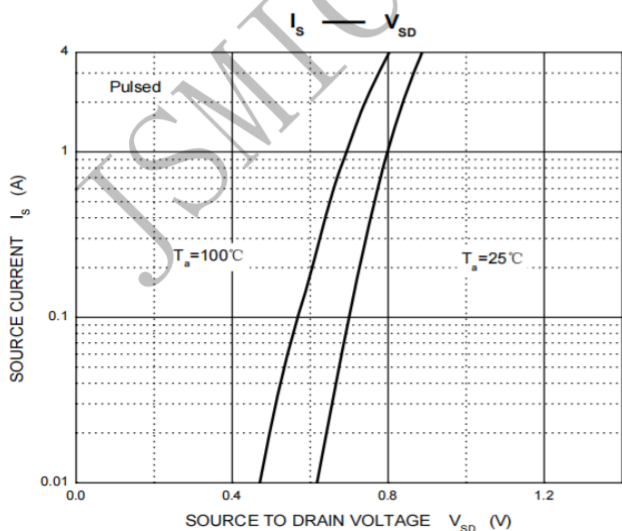
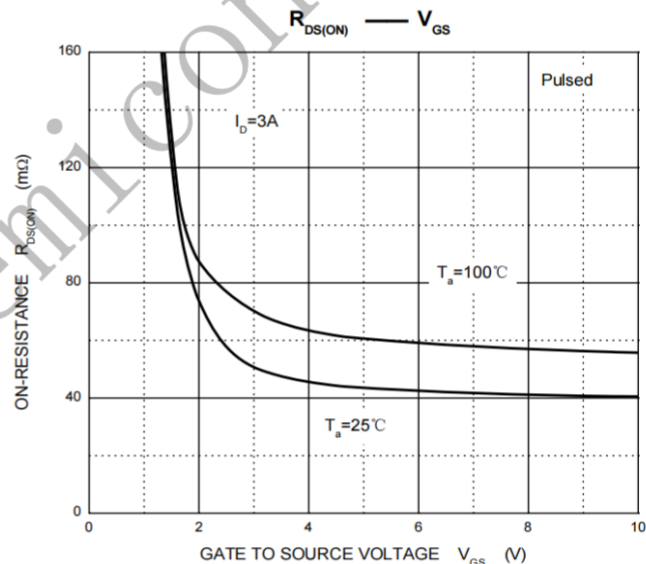
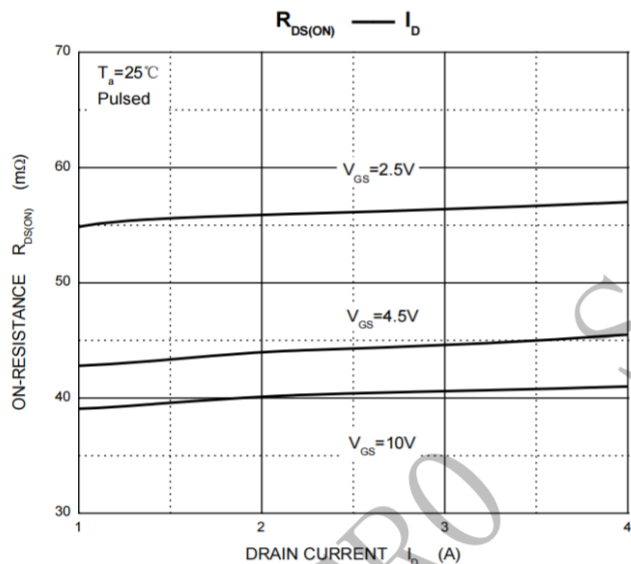
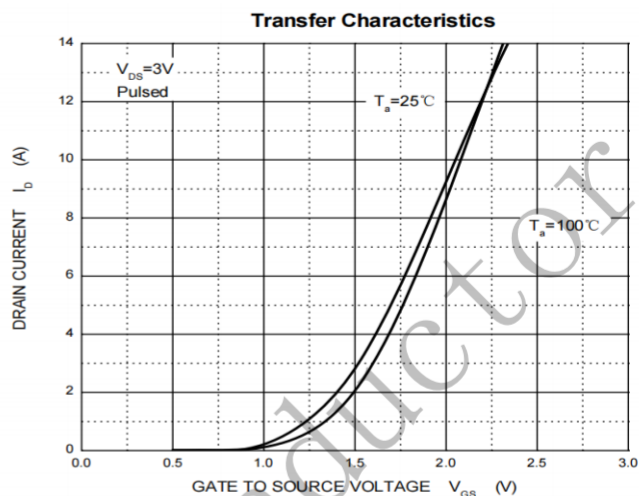
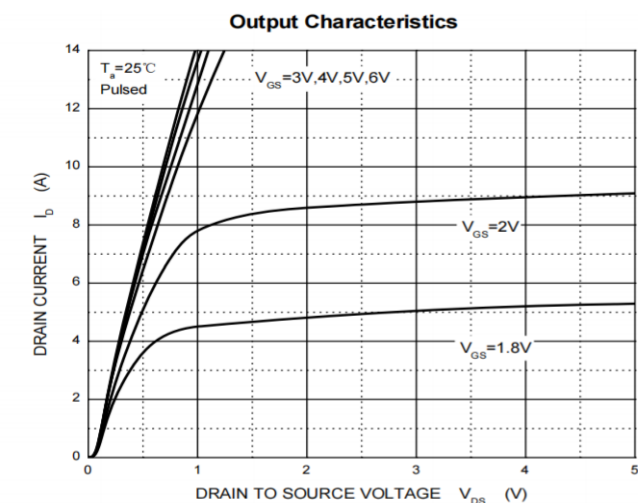
P-channel MOSFET Electrical Characteristics (TA=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -24V, V_{GS} = 0V$			-1	μA
Gate-source leakage current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			± 100	nA
Drain-source on-resistance (note1)	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -2.3A$		75	135	m Ω
		$V_{GS} = -4.5V, I_D = -2A$		95	185	m Ω
		$V_{GS} = -2.5V, I_D = -1A$		140	265	m Ω
Forward tranconductance (note1)	g_{FS}	$V_{DS} = -5V, I_D = -2.3A$	4.5			S
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.6		-1.4	V
Diode forward voltage (note1)	V_{DS}	$I_S = -1A, V_{GS} = 0V$			-1	V
Dynamic characteristics (note2)						
Input capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = -15V, f = 1MHz$		409		pF
Output capacitance	C_{oss}			55		pF
Reverse transfer capacitance	C_{rss}			42		pF
Gate resistance	R_g	$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		12		Ω
Switching Characteristics (note2)						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = -10V, V_{DS} = -15V, R_L = 6\Omega, R_{GEN} = 6\Omega$		13		ns
Turn-on rise time	t_r			10		ns
Turn-off delay time	$t_{d(off)}$			28		ns
Turn-off fall time	t_f			13		ns

Notes: 1. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 0.5\%$.
 2. Guaranteed by design, not subject to production testing.

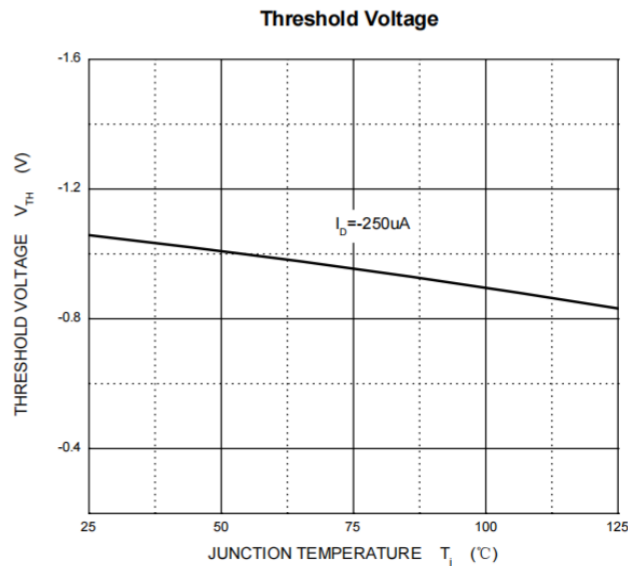
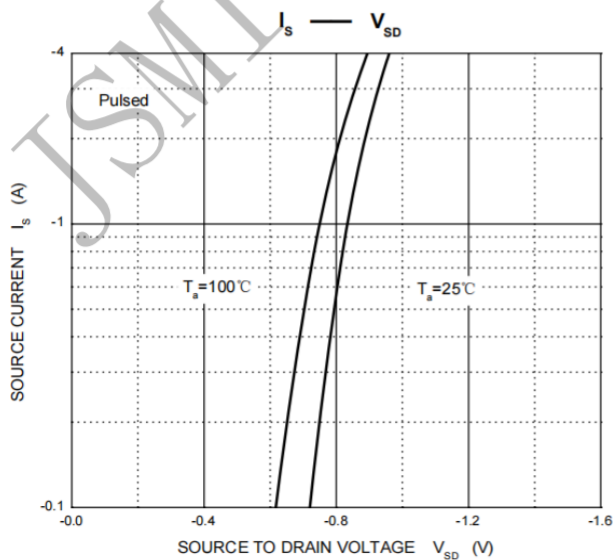
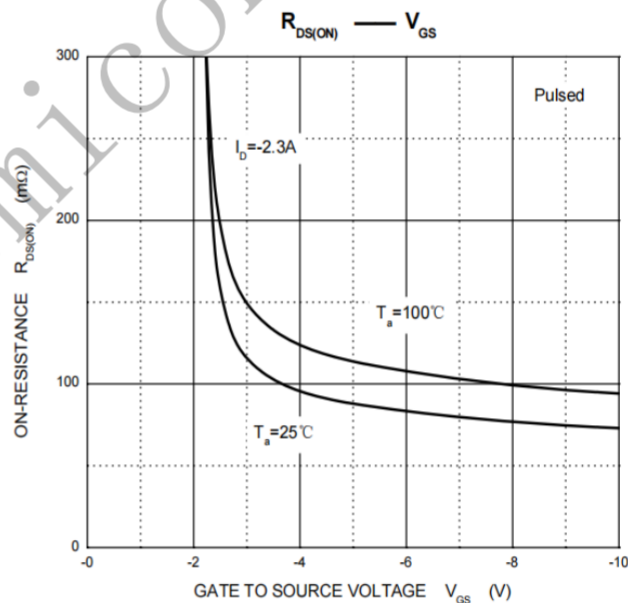
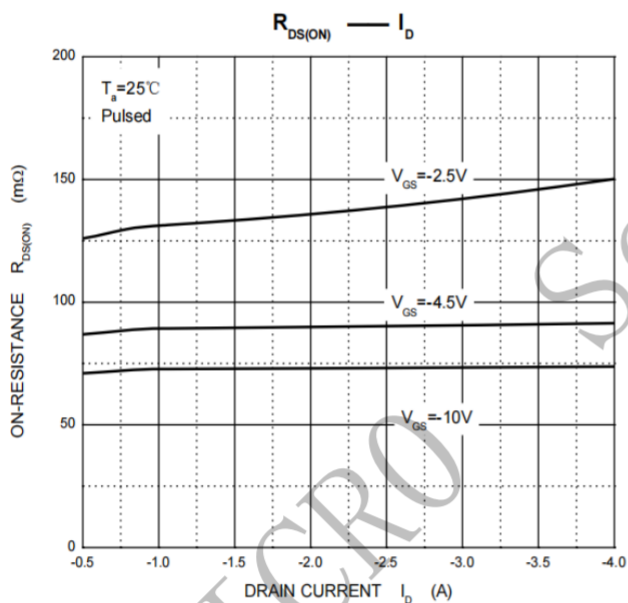
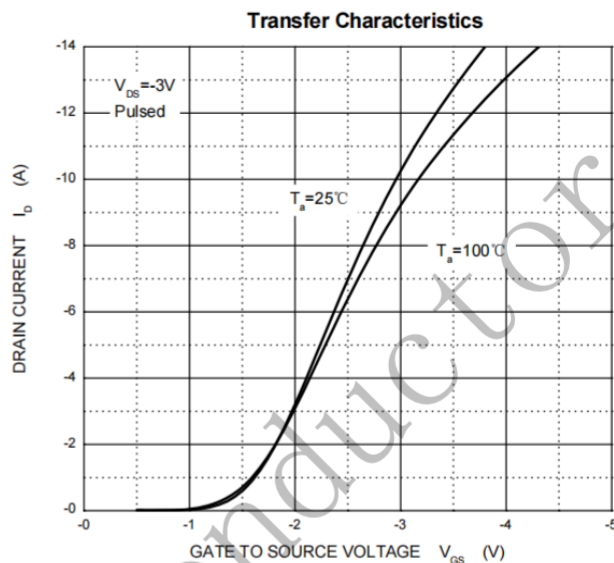
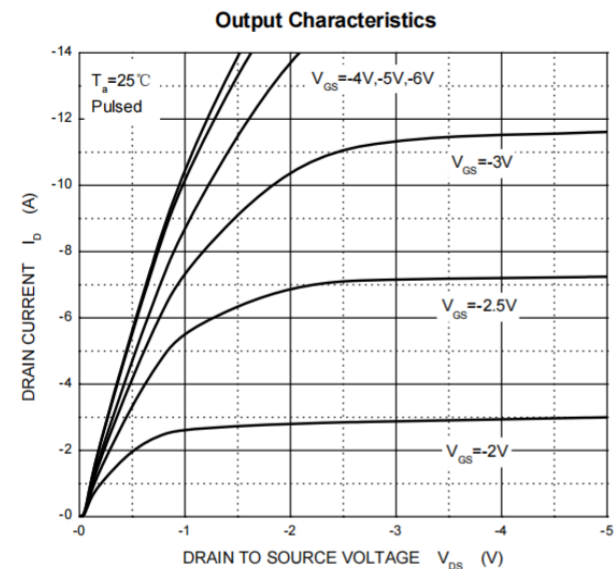
Typical Characteristics

N-Channel-MOS

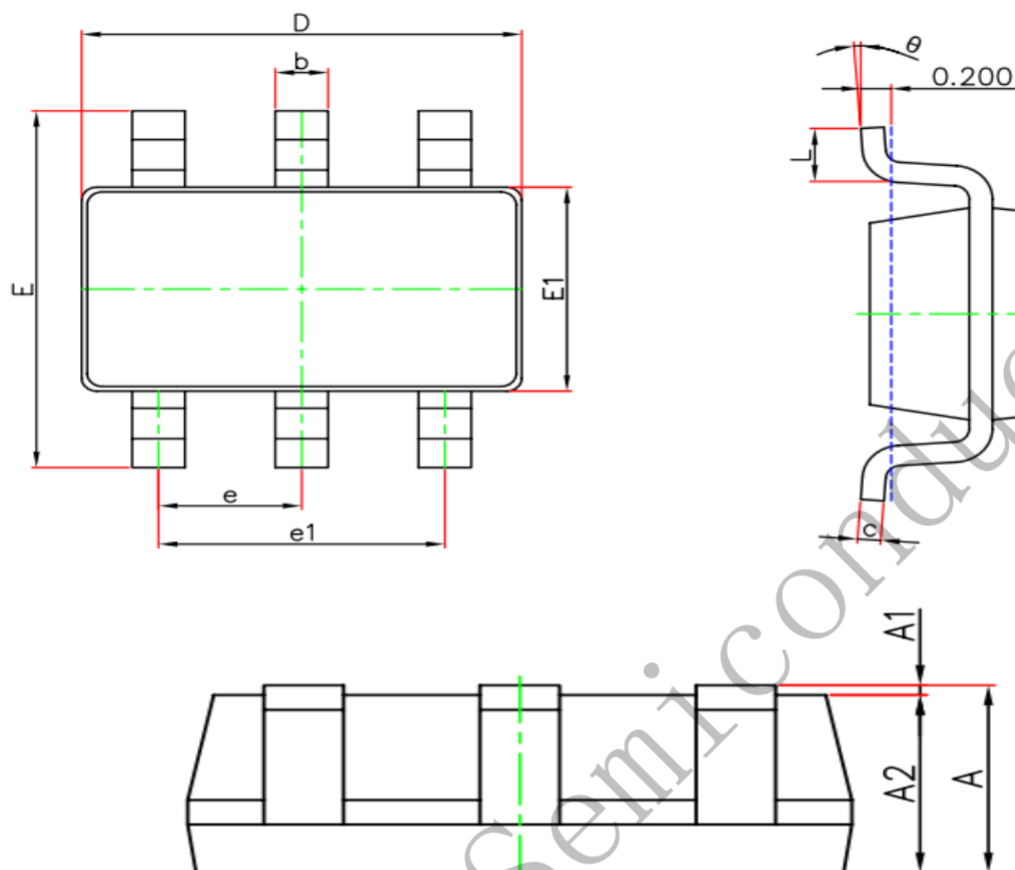


Typical Characteristics

P-Channel-MOS

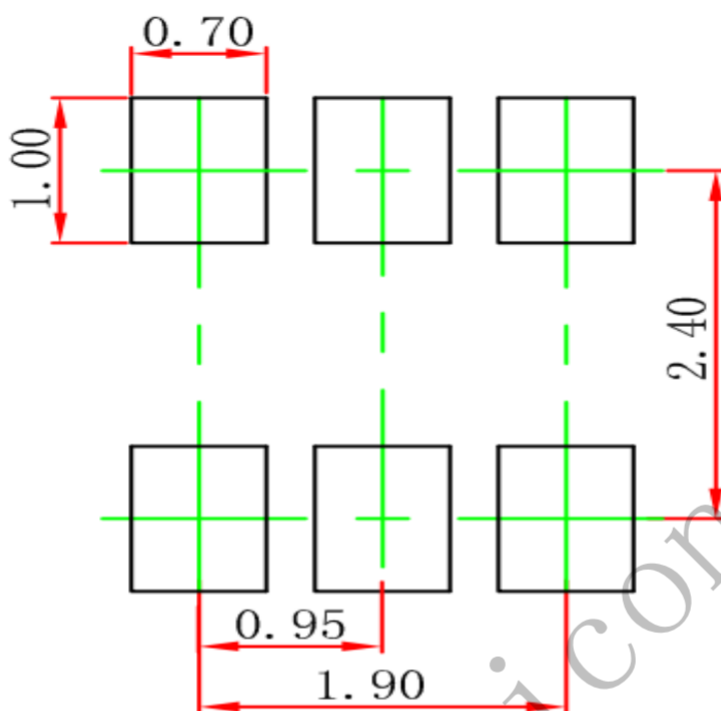


■ SOT-23-6L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

■ SOT-23-6L 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.