TPAP2125 series

Ultra Low Consumption CMOS Voltage Regulator

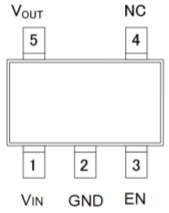
Features

- 0.8μA Current at no Load(TYP.)
- ±2% Output Accuracy
- 300mA Output Current
- Compact package:
  SOT353 & SOT23-5 & SOT23-3L

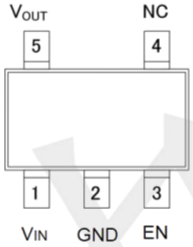
Applications

- Portable consumer equipments
- Radio control systems
- Wireless Commumication Equipments
- Ultra Low Power Micro controller

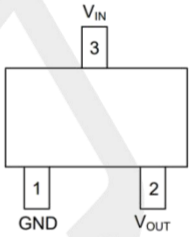
PIN CONFIGURATION



SOT353



SOT23-5



SOT23-3L

Pin Number			Pin Name	Pin Function
SOT353	SOT23-5	SOT23-3L		
1	1	3	V_{IN}	Power Input Pin
2	2	1	GND	Ground
3	3	--	EN	Chip Enable Pin
4	4	--	NC	No Internal Connection
5	5	2	V_{OUT}	Output Pin

Ordering Information

TPAP2125X-X.X TRG1

PACKAGE TYPE	OUTPUT VOLTAGE	
N:SOT23	1.2: 1.2V	1.5: 1.5V
K:SOT23-5	1.8: 1.8V	2.5: 2.5V
KS:SOT353	2.8: 2.8V	3.0: 3.0V
	3.3: 3.3V	3.6: 3.6V

Example: TPAP2125K-3.0TR1G

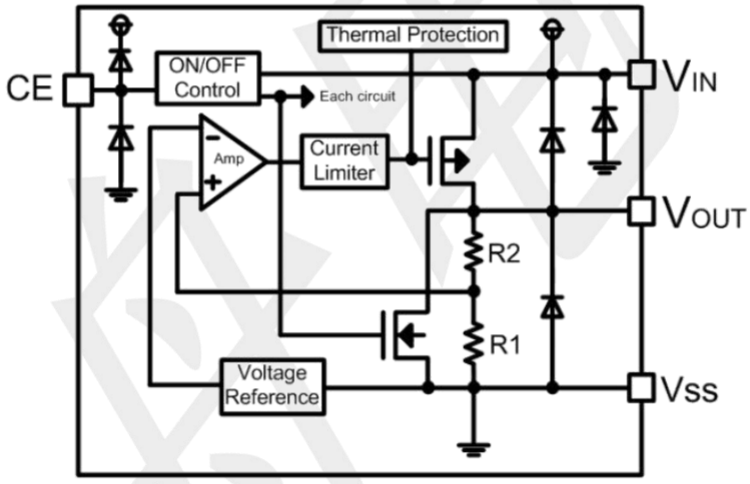
→ 3.0VVersion,in SOT23-5 Package & Tape & Reel Packing Type

Absolute Maximum Ratings

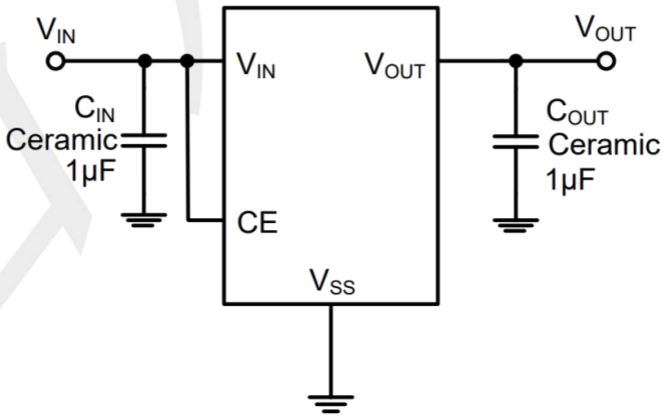
over operating free-air temperature range (unless otherwise noted)

		MIN	MAX	UNIT
VIN	Continuous input voltage range	-0.3	7	V
VOUT	Output voltage range	-0.3	VIN+0.3	
Current	Maximum output current	Internally limited		mA
Temperature	Operating Temperature, Topr	-40	+85	℃
	Storage, Tstg	-40	+150	
	Welding temperature and time，Tsolder	+260, 10s		
Power Dissipation	Pd DFN1X1-4	400		mW
	Pd SOT23-5	300		
	Pd SOT23-3L	250		

BLOCK DIAGRAM



Typical Application Circuit



Electrical Characteristics (TA=25℃, unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS		MIN.	TYP.	MAX.	UNITS
Input Voltage	V_{IN}	--		1.8	--	7.0	V
Output Voltage	V_{OUT}	--		1.2	--	3.6	V
DC Output Accuracy	--	I_{OUT}=1mA		-2	--	2	%
Output Current	I_{OUT}	V_{IN}=1.8V		150	--	--	mA
		V_{IN}=4.3V		350	--	--	
Dropout Voltage	V_{dif} (2)	I_{OUT} =100mA,V_{OUT}=3.0V		--	110	--	mV
Supply Current	I_{SS}	I_{OUT}=0		0.45	0.8	1.3	μA
Standby Current	I_{STBY}	CE=V_{SS}		--	--	0.1	μA
Load Regulation	ΔV_{OUT}	V_{IN}= V_{OUT} +1V 1mA≤I_{OUT}≤100mA		--	5	--	mV
Line Regulation	$\frac{\Delta V_{OUT}}{V_{OUT}\times\Delta V_{IN}}$	I_{OUT} =10mA V_{OUT} +1V≤V_{IN}≤6V		--	0.03	0.2	%/V
Temperature Coefficient	$\frac{\Delta V_{OUT}}{V_{OUT}\times\Delta T_A}$	I_{OUT}=10mA -40°C<T_A<85°C		--	50	--	ppm
Output Current Limit	I_{LIM}	V_{OUT}=90%xV_{OUT} (V_{OUT}≥3.0V)		350	--	--	mA
Short Current	I_{SHORT}	V_{OUT} =V_{SS}		--	10	--	mA
Power Supply Rejection Ratio	PSRR	I_{OUT}=50mA	100Hz	--	65	--	dB
			1kHz	--	70	--	
			10kHz	--	50	--	
			100kHz	--	35	--	
CE "High" Voltage	V_{CE}"H"	--		1.5	--	V_{IN}	V
CE "Low" Voltage	V_{CE}"L"	--		--	--	0.3	V
COUT Auto-Discharge Resistance	$R_{DISCHRG}$	V_{IN}=5V, V_{OUT}=3.0V V_{CE}=V_{SS}		--	200	--	Ω

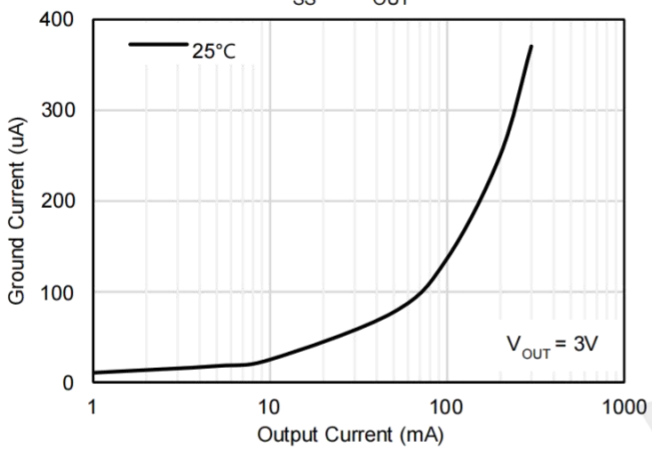
Note:

1. Test condition: the device is mounted on FR-4 substrate PC board, with minimum recommended pad layout.

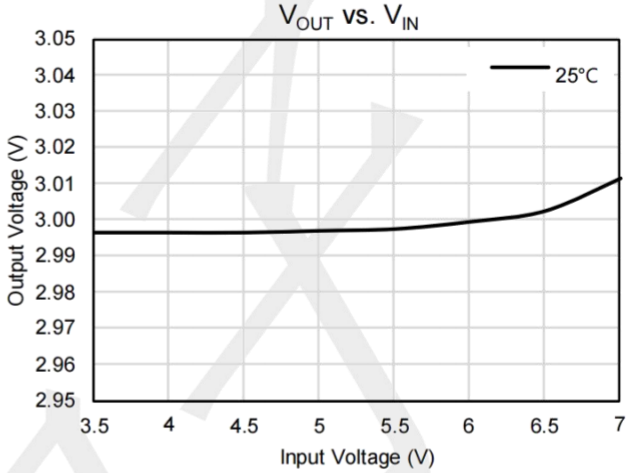
2.Vdif :The Difference Of Output Voltage And Input Voltage When Input Voltage Is Decreased Gradually Till Output Voltage Equals To 98% Of VOUT .

Typical Operating Characteristics (25 °C, unless otherwise noted)

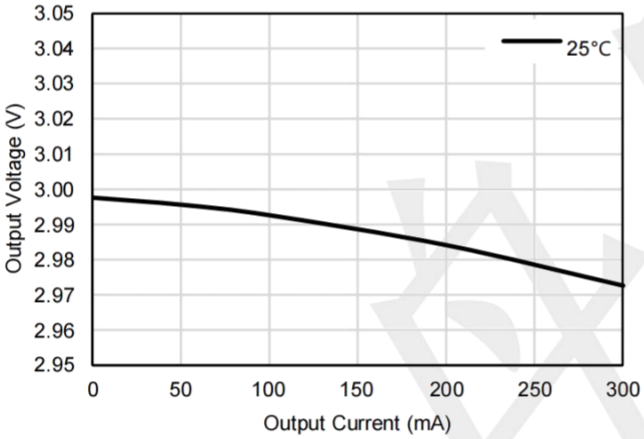
I_{SS} vs. I_{OUT}



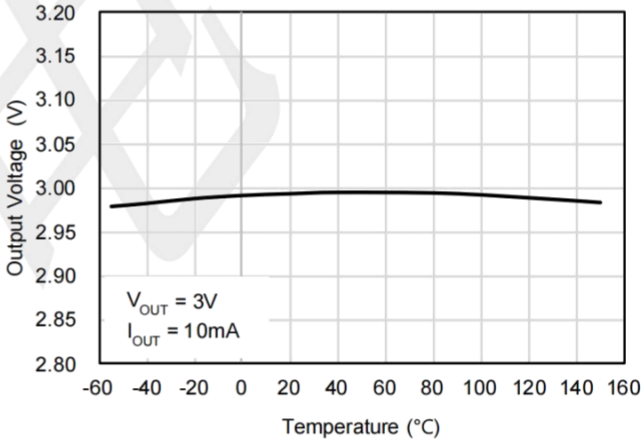
V_{OUT} vs. V_{IN}



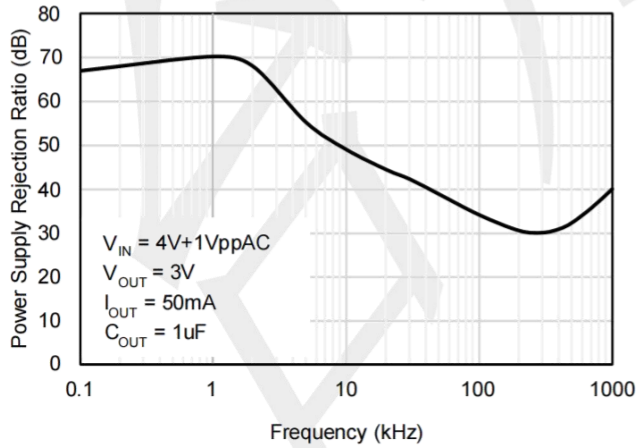
V_{OUT} vs. I_{OUT}



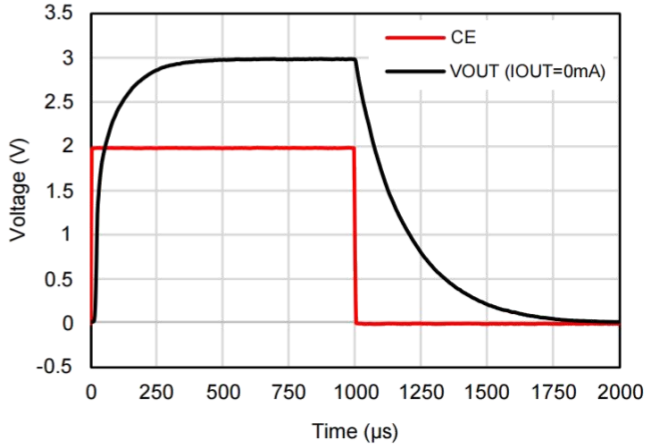
Temperature Coefficient



PSRR

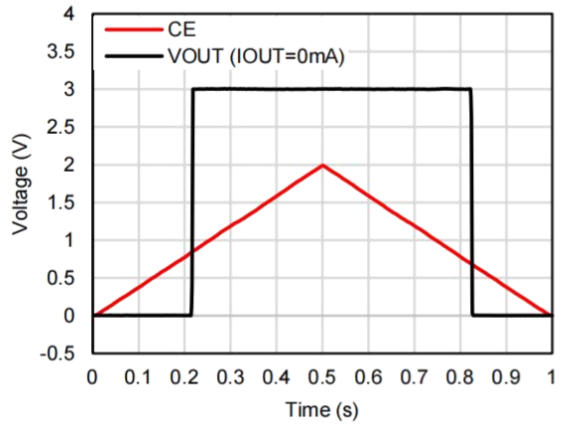


CE On/Off Response

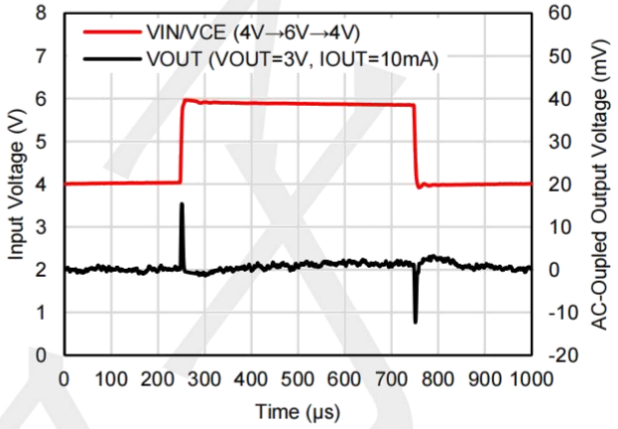


Typical Operating Characteristics (25 °C, unless otherwise noted)

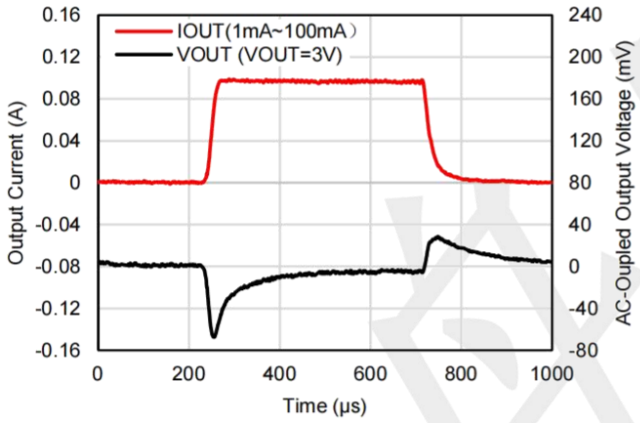
CE Threshold



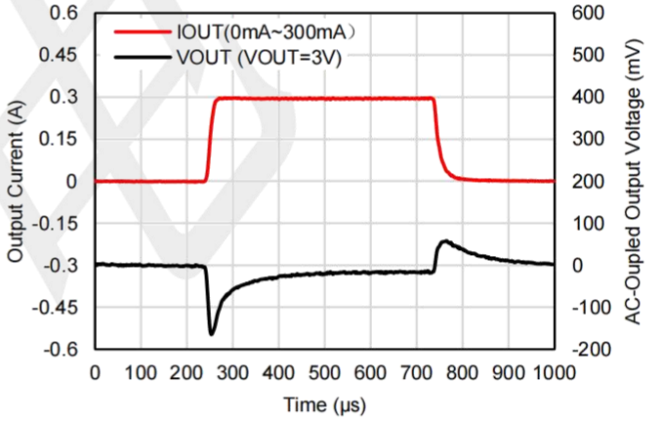
Line Transient



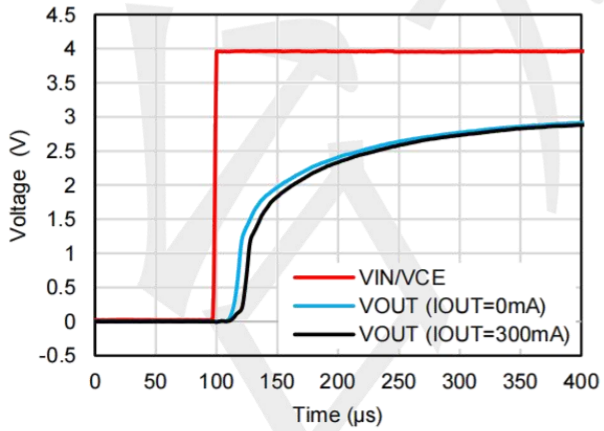
Load Transient



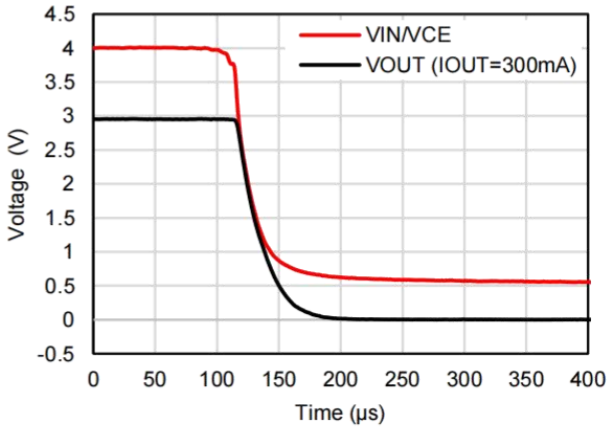
Load Transient



Power Up Response

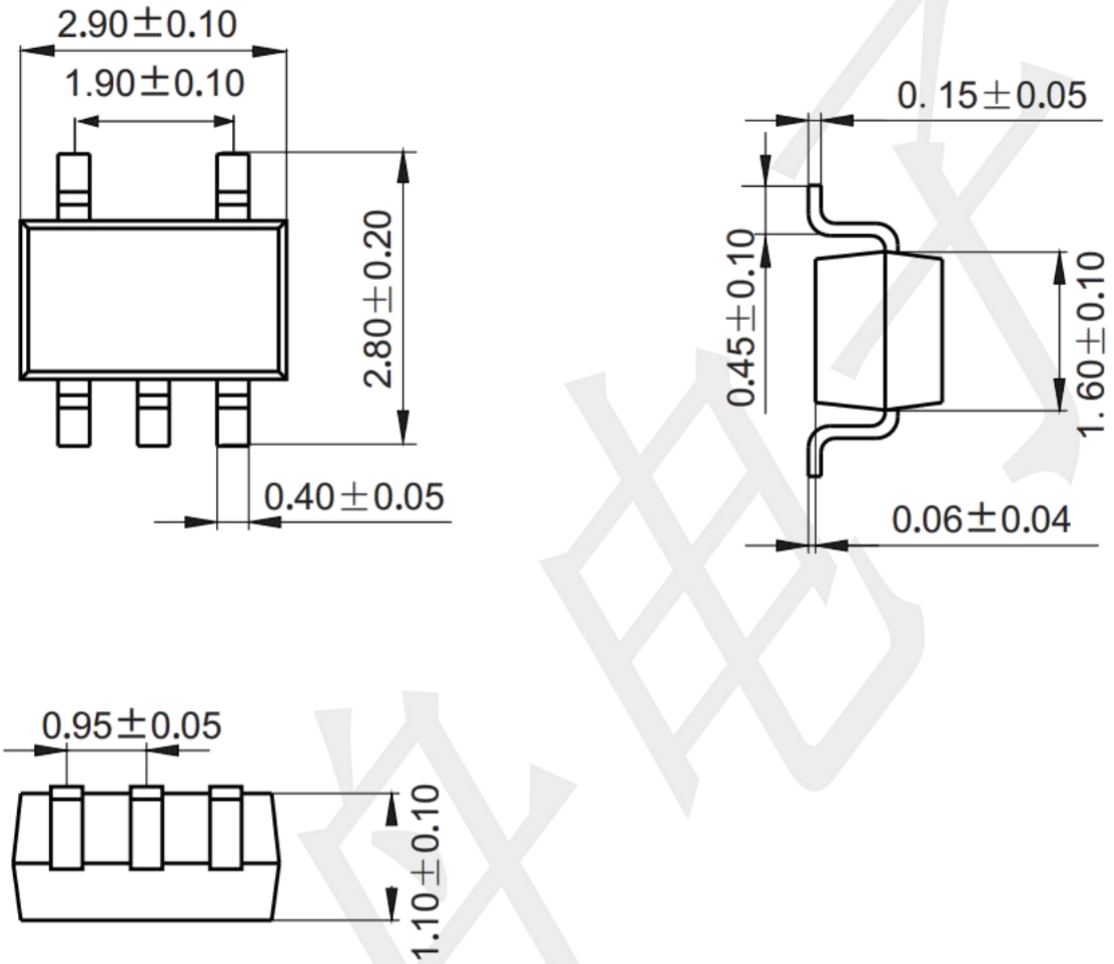


Power Down Response

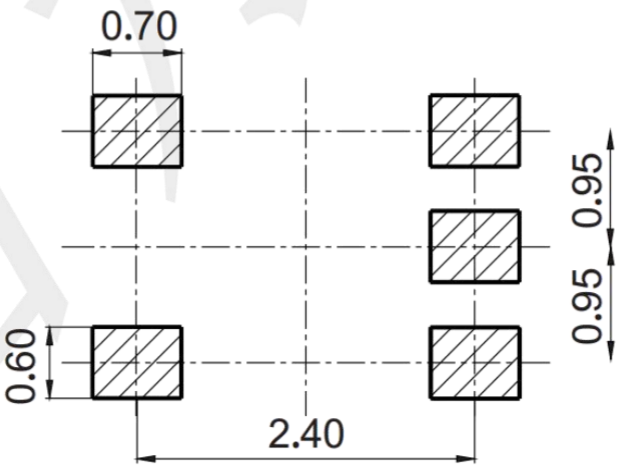


Package Outline Dimensions (unit: mm)

SOT23-5

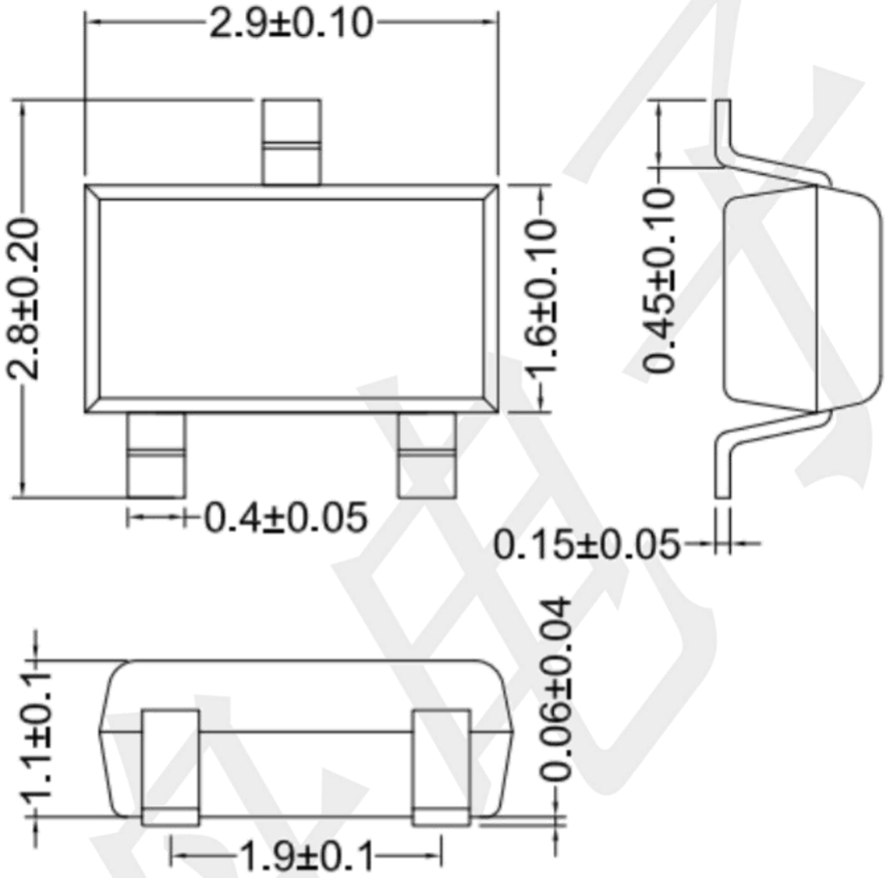


Mounting Pad Layout (unit: mm)

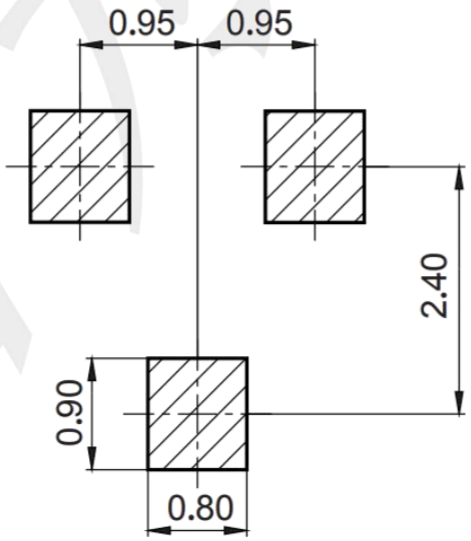


Package Outline Dimensions (unit: mm)

SOT23-3L

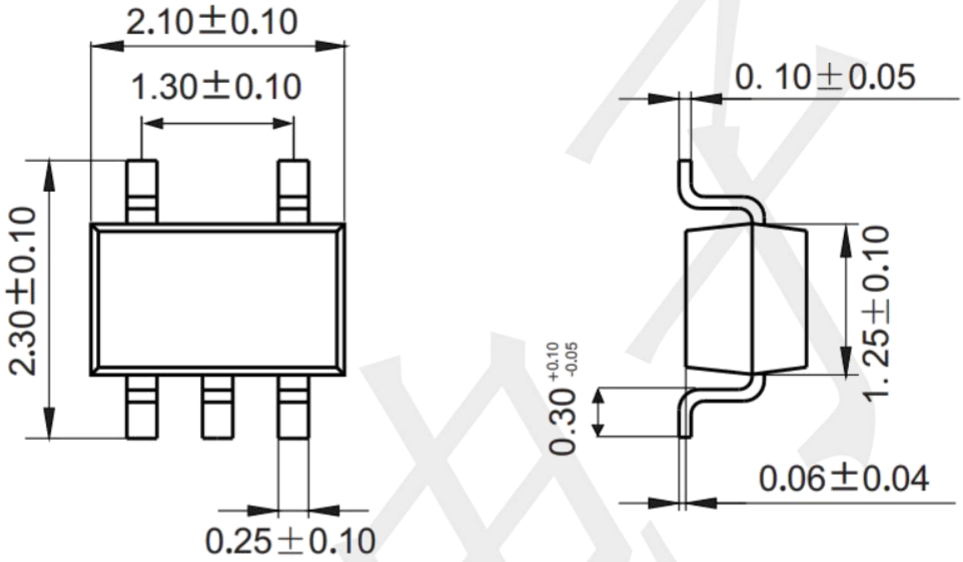


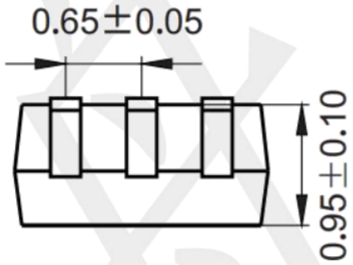
Mounting Pad Layout (unit: mm)



Package information (Unit: mm)

SOT353





Mounting Pad Layout (unit: mm)

