



Three Terminal Voltage Regulators

三端稳压管

78L05B

产品特性 Features

输出电压 Output Voltage	5V
最大输出电流 Max Output Current	0.1A
过载保护 Internal thermal overload protection	
短路电流限制 Internal short-current limiting	
输出端最大安全工作区域 Output transistor safe-area compensation	
输出电压精度在 4%以内 Output voltage offered in 4% tolerance	

封装形式 Package



1 2 3

1:Output 2:GND 3:Input

功能图 Functional diagram

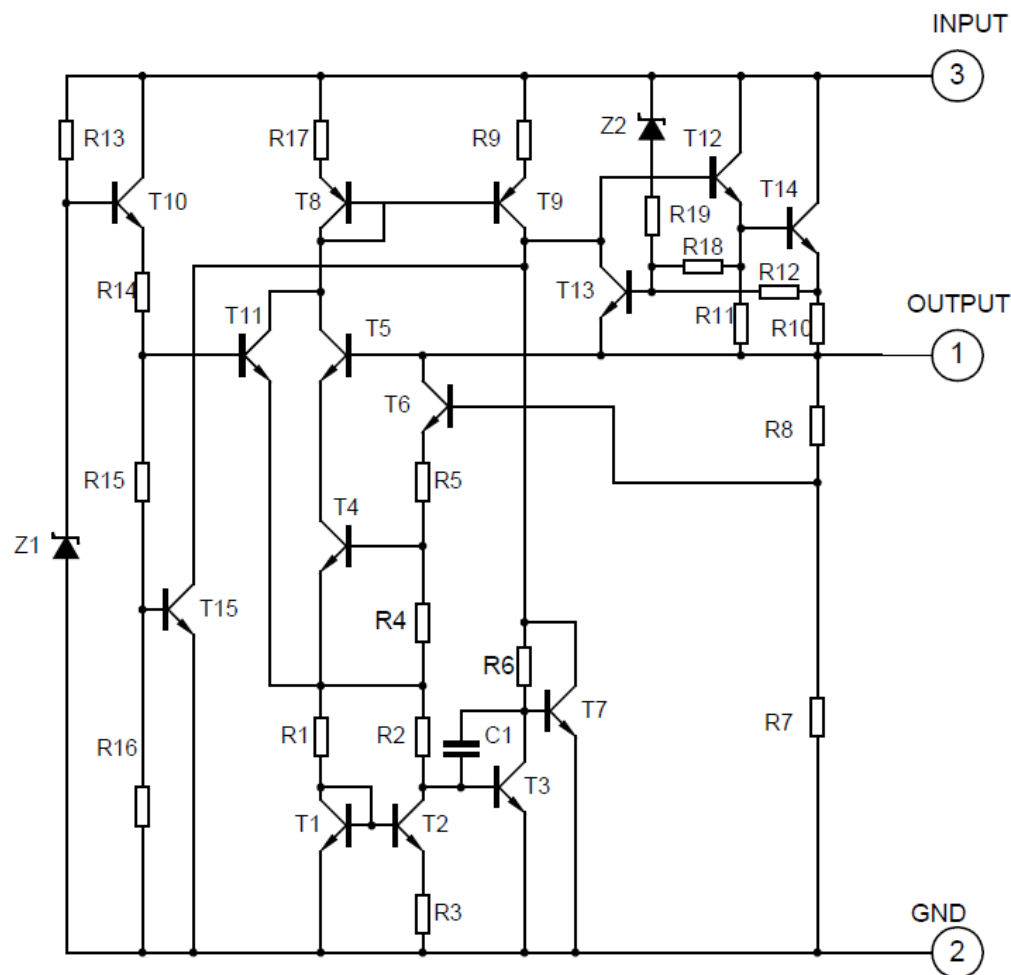


Fig.1

绝对最大额定值 Absolute Maximum Rating ($T_a = 25^\circ\text{C}$ unless otherwise noted)

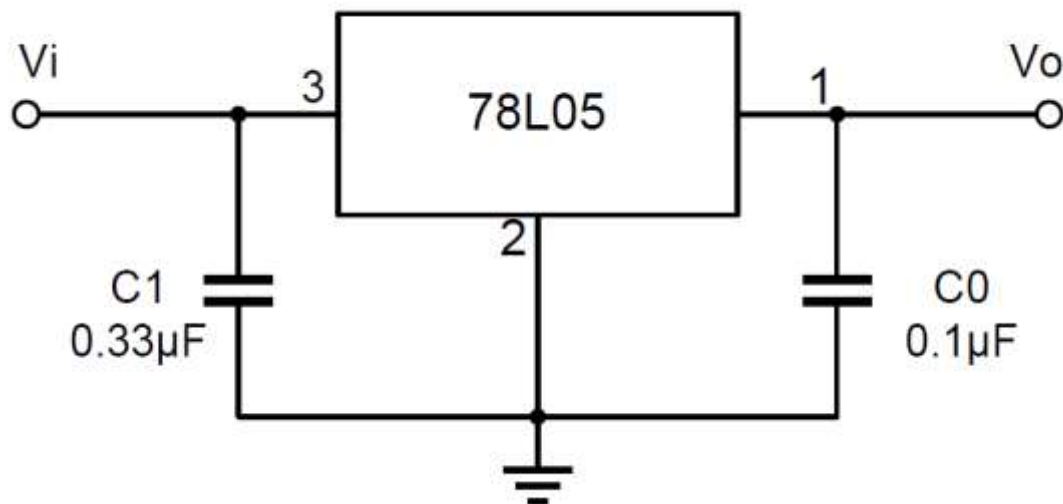
Parameter 项目	Symbol 符号	Limit 极限值	Unit
输入电压 Input Voltage	V_{in}	30	V
功率损耗 Power Dissipation	P_D	625	mW
结温 Junction Temperature	T_j	+125	$^\circ\text{C}$
存储温度 Storage Temperature Range	T_{STG}	-40~+150	$^\circ\text{C}$
结-壳的热阻 Thermal Resistance -Junction to Case	$R_{\theta JC}$	5	$^\circ\text{C/W}$
结-环境的热阻 Thermal Resistance -Junction to Ambient	$R_{\theta JA}$	50	$^\circ\text{C/W}$

电参数特性 Electrical Characteristics

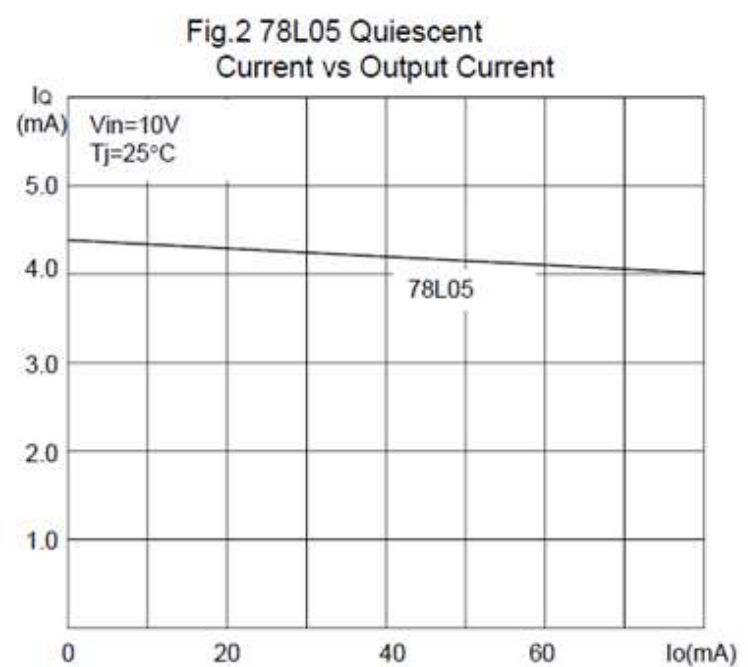
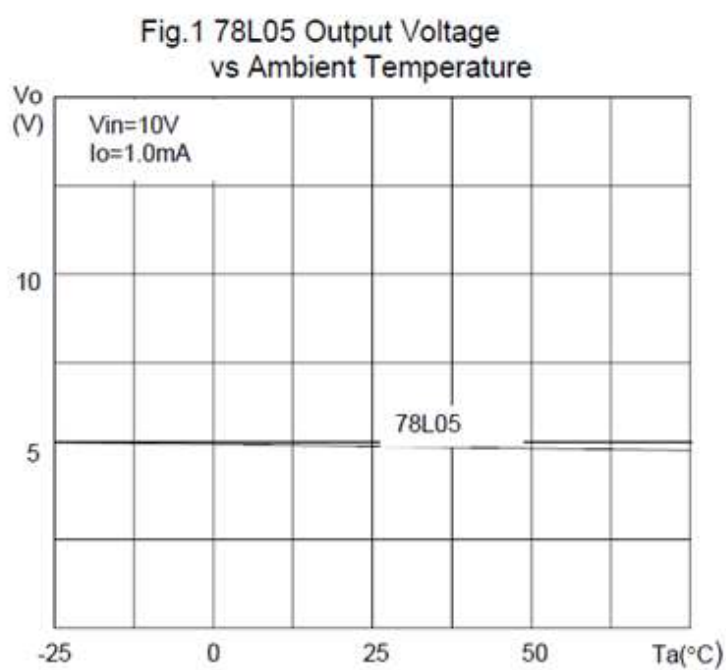
($V_{in}=10V$, $I_{out}=40mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$, $C_{in}=0.33\mu F$, $C_{out}=0.1\mu F$; unless otherwise specified.)

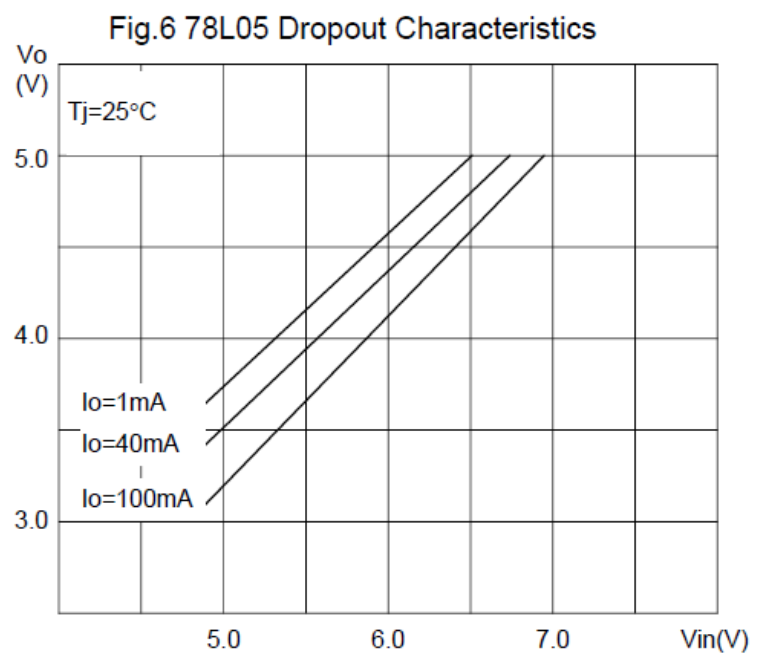
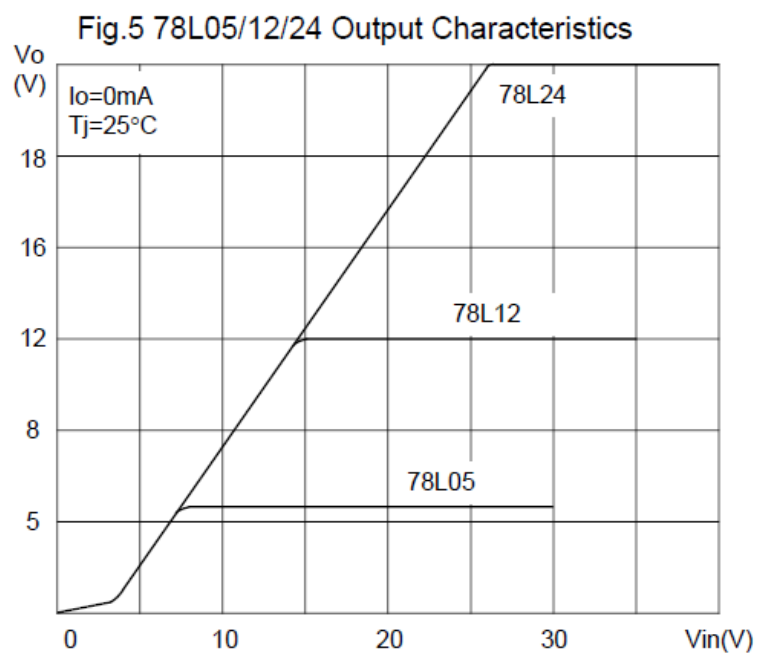
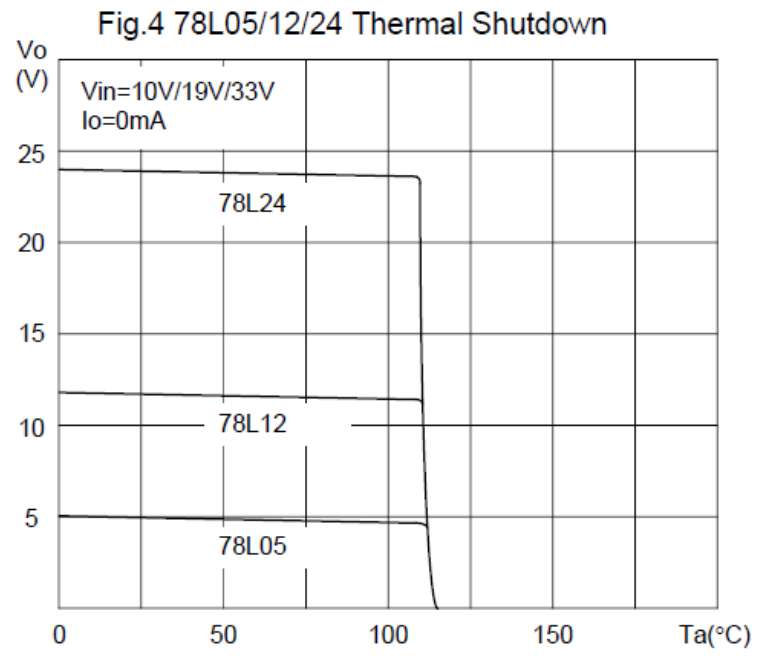
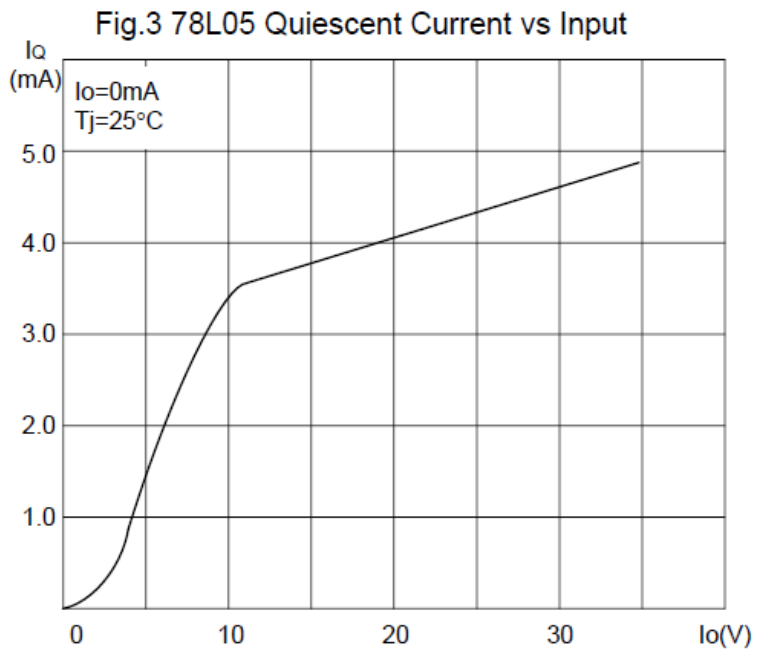
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
输出电压 Output voltage	V_{out}	$T_j=25^{\circ}C$	4.80	5	5.20	V
		$7V \leq V_{in} \leq 20V$, $1mA \leq I_{out} \leq 40mA$,	4.75	5	5.25	
线性调节 Line Regulation	REGline	$T_j=25^{\circ}C$				mV
			$7V \leq V_{in} \leq 20V$	--	8	
			$8V \leq V_{in} \leq 12V$	--	6	100
负载调节 Load Regulation	REGload	$T_j=25^{\circ}C$				mV
			$1mA \leq I_{out} \leq 100mA$	--	11	
			$1mA \leq I_{out} \leq 40mA$	--	5	30
静态电流 Quiescent Current	I_q	$I_{out}=0$, $T_j=25^{\circ}C$	--	2	5.5	mA
静态电流变化 Quiescent Current Change	ΔI_q	$8.0V \leq V_{in} \leq 20V$	--	--	1.5	
		$1mA \leq I_{out} \leq 40mA$	--	--	0.1	
输出电压纹波 Output Noise Voltage	V_n	$10Hz \leq f \leq 100KHz$, $T_j=25^{\circ}C$	--	40	--	μV
浪涌衰减 Ripple Rejection Ratio	RR	$f=120Hz$, $8V \leq V_{in} \leq 20V$	40	49	--	dB
衰减电压 Voltage Drop	V_{drop}	$I_{out}=1A$, $T_j=25^{\circ}C$	--	1.7	--	V
输出电压特性 Temperature Coefficient of Output Voltage	$\Delta V_{out} / \Delta T_j$	$I_{out}=5mA$, $0^{\circ}C \leq T_j \leq 125^{\circ}C$	--	0.65	--	$mV/^{\circ}C$

测试电路 Test Circuits

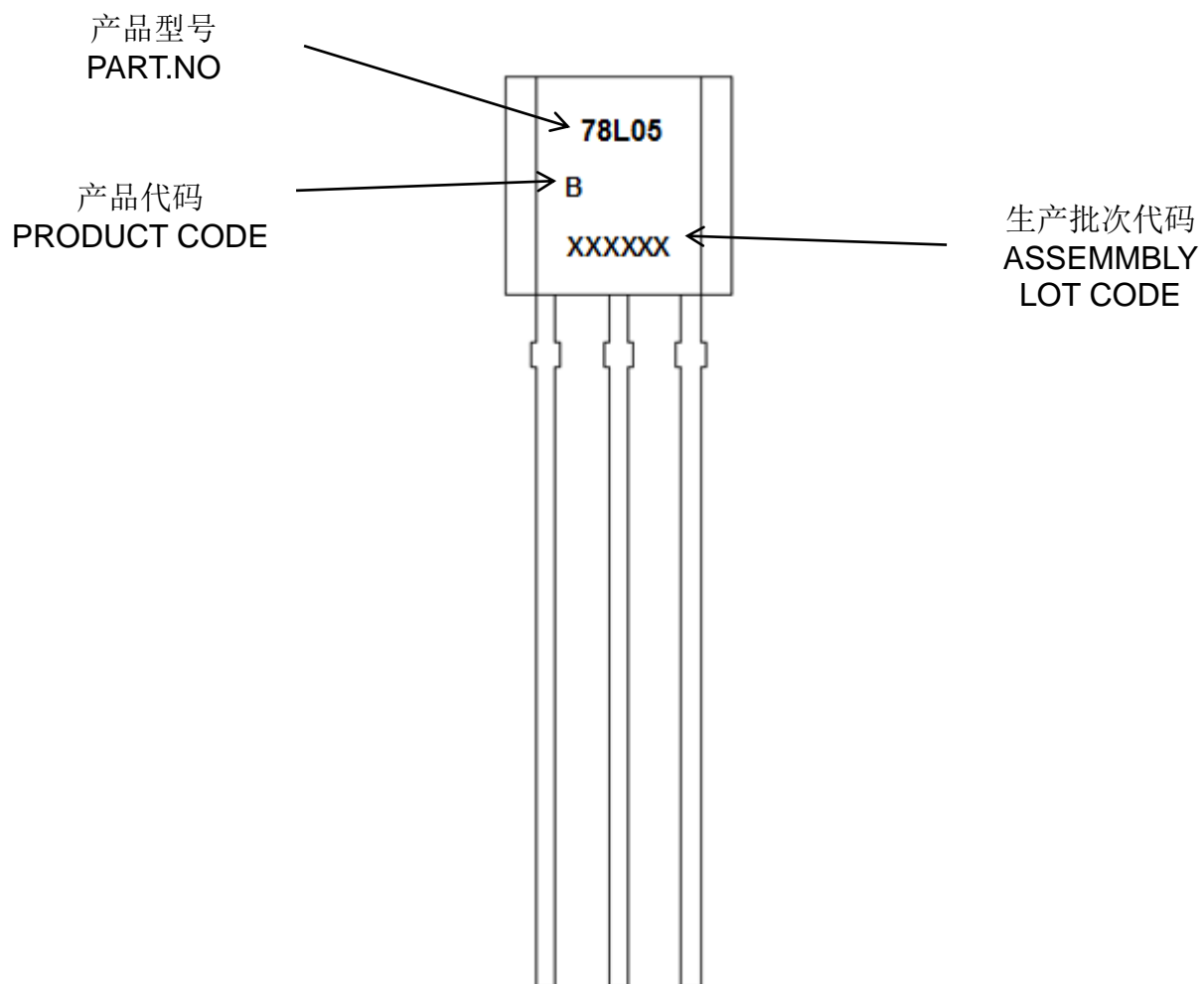


典型特性曲线 Typical performance characteristics





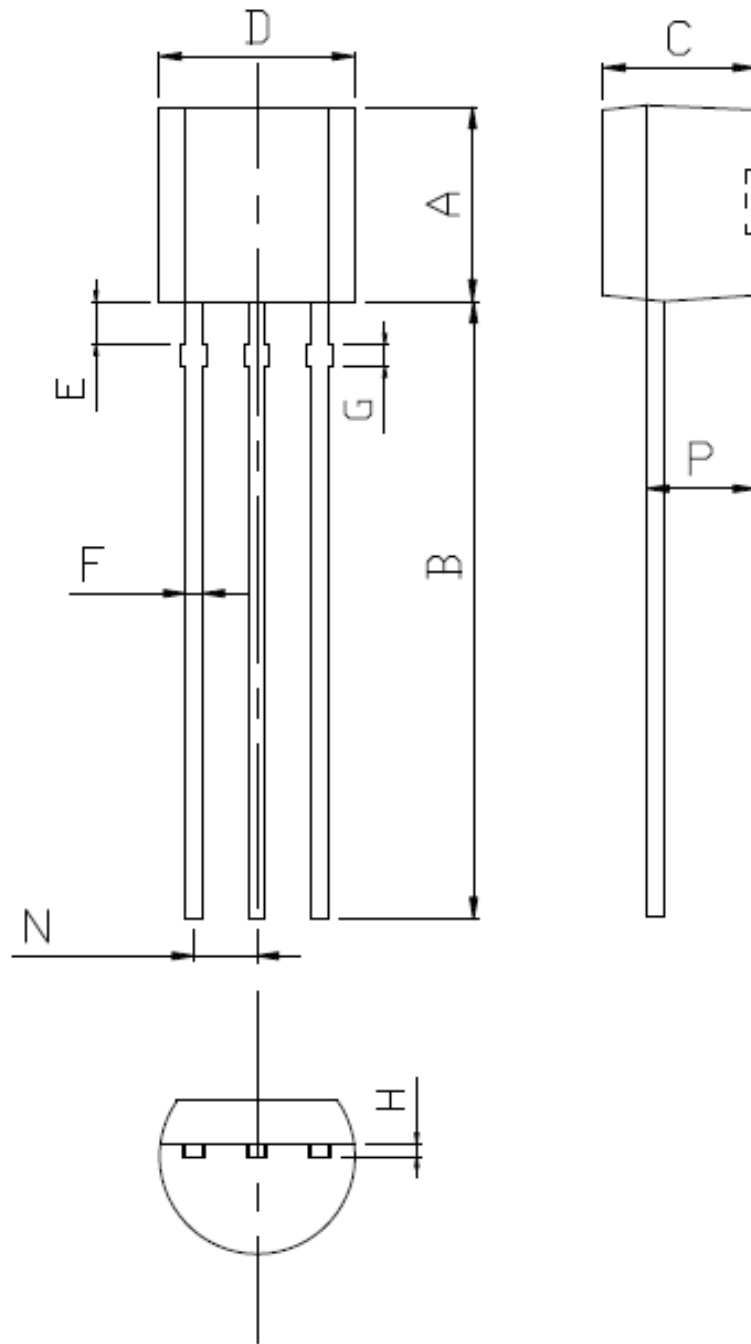
印记 Marking:



外形尺寸:

Package Dimension:

TO-92



DIM	MILLIMETERS
A	4.55+0.20
B	14.50±0.30
C	3.54±0.20
D	4.56±0.20
E	1.30±0.20
F	0.46±0.20
G	0.50±0.10
H	0.32±0.10
N	1.30±0.20
P	2.52±0.20

(Unit: mm)