

**Features**

- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant.)
- Internal Short Circuit Current Limiting
- Internal Thermal Overload Protection
- No External Components Required
- Epoxy Meets UL 94 V-0 Flammability Rating

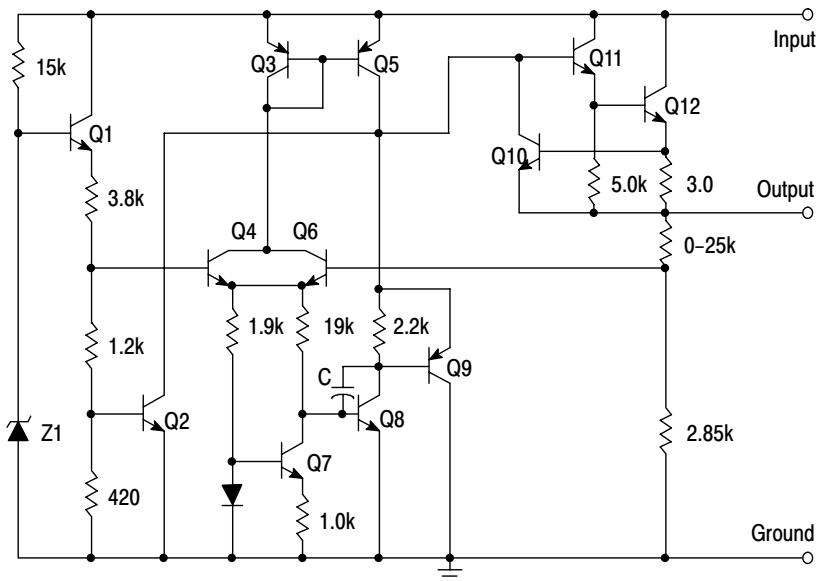
**Maximum Ratings**

Parameter	Symbol	Value	Unit
Input Voltage	$V_I$	30	V
Maximum Output Current	$I_O$	0.1	A
Power Dissipation	$P_d$	0.35	W
Operating Junction Temperature	$T_{OPR}$	-25~125	°C
Storage Temperature Range	$T_{STG}$	-55~150	°C

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

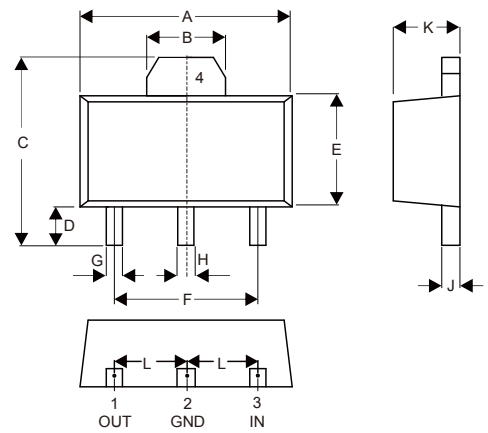
**Marking code: 78L05FA**

**Schematic Diagram**



**Three-Terminal Low Current Positive Voltage Regulator**

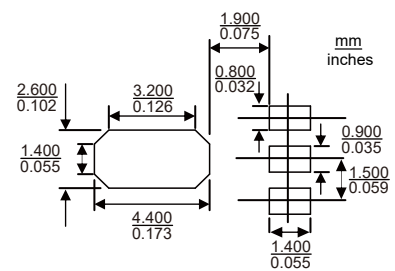
**SOT-89**



**DIMENSIONS**

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.061		1.55		TYP.
C	0.154	0.171	3.91	4.35	
D	0.031	0.047	0.80	1.20	
E	0.089	0.104	2.25	2.65	
F	0.118		3.00		TYP.
G	0.013	0.020	0.33	0.52	
H	0.015	0.021	0.38	0.53	
J	0.014	0.017	0.35	0.44	
K	0.055	0.063	1.40	1.60	
L	0.059		1.50		TYP.

**Suggested Solder Pad Layout**



Electrical Characteristics(  $V_i=10V$ ,  $I_o=40mA$ ,  $C_i=0.33\mu F$ ,  $C_o=0.1\mu F$ , unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	$V_o$	$V_i=7V-20V$ $I_o=1mA-40mA$ $T_j=25^\circ C$	4.8	-	5.2	V
		$V_i=10V$ $I_o=100mA$ $T_j=25^\circ C$	4.75	-	5.25	V
Load Regulation	$\Delta V_o$	$I_o=1mA-100mA$ , $T_j=25^\circ C$ ,	-0.06	-	0.06	V
		$I_o=1mA-40mA$ , $T_j=25^\circ C$	-0.03	-	0.03	V
Line regulation	$\Delta V_o$	$V_i=7V-20V$ , $T_j=25^\circ C$	-0.15	-	0.15	V
		$V_i=8V-20V$ , $T_j=25^\circ C$	-0.1	-	0.1	V
Quiescent Current	$I_q$	$V_i=10V, I_o=40mA$	-	-	5.5	mA
Quiescent Current Change	$\Delta I_q$	$V_i=8V-20V, I_o=40mA$	-0.15	-	0.15	mA
		$V_i=10V, I_o=1mA-40mA$	-0.1	-	0.1	mA

**Curve Characteristics**

Fig. 1 - Output Characteristics

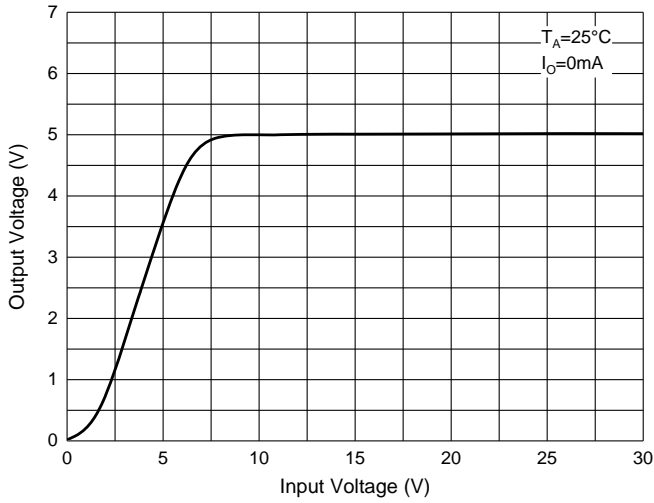


Fig. 2 - Quiescent Current vs Input Voltage

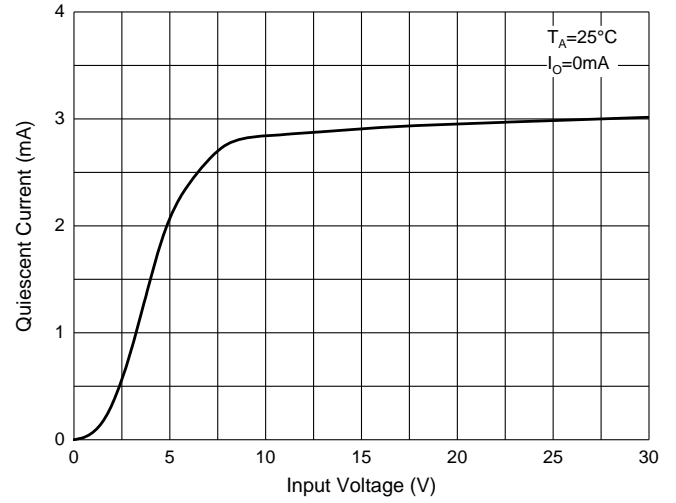


Fig. 3 - Current Cut-off Grid Voltage

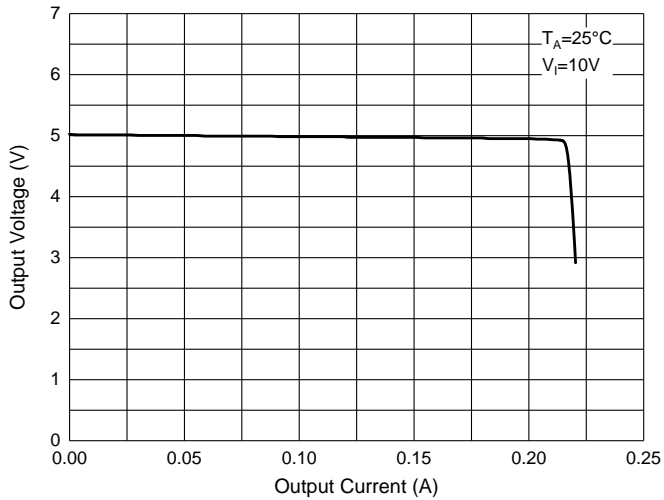
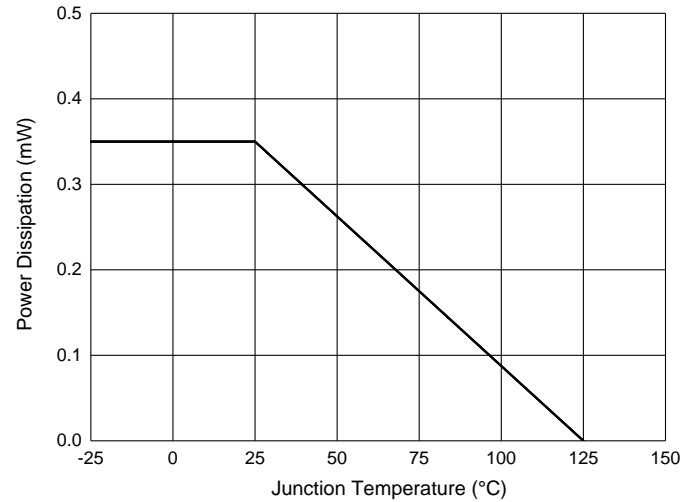


Fig. 4 - Power Derating Curve



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:1Kpcs/Reel

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