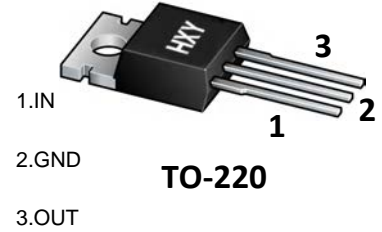




FEATURES

- Maximum output current I_{OM} : 1A
- Output voltage V_O : 5V
- Continuous total dissipation P_D : 1.5 W ($T_a=25^\circ\text{C}$)

Package Marking and Ordering Information



Product ID	Pack	Marking	Units Tube
7805	TO-220	7805	50

ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

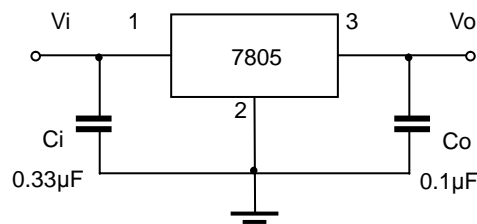
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Air	$R_{\theta JA}$	66.7	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	-25~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=10V, I_o=500mA, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output voltage	V_o	25°C	4.8	5.0	5.2	V	
		$7V \leq V_i \leq 20V, I_o=5mA-1A$	-25-125 $^\circ\text{C}$	4.75	5.00	5.25	V
Load Regulation	ΔV_o	$I_o=5mA-1A$	25°C		9	100	mV
		$I_o=250mA-750mA$	25°C		4	50	mV
Line regulation	ΔV_o	$7V \leq V_i \leq 25V$	25°C		4	100	mV
		$8V \leq V_i \leq 12V$	25°C		1.6	50	mV
Quiescent Current	I_q	25°C		5	8	mA	
Quiescent Current Change	ΔI_q	$7V \leq V_i \leq 25V$	-25-125 $^\circ\text{C}$		0.3	1.3	mA
		$5mA \leq I_o \leq 1A$	-25-125 $^\circ\text{C}$		0.03	0.5	mA
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25°C		42	μV	
Output voltage drift	$\Delta V_o / \Delta T$	$I_o=5mA$	-25-125 $^\circ\text{C}$		-1.1	$\text{mV}/^\circ\text{C}$	
Ripple Rejection	RR	$8V \leq V_i \leq 18V, f=120\text{Hz}$	-25-125 $^\circ\text{C}$	62	73	dB	
Dropout Voltage	V_d	$I_o=1A$	25°C		2	$\mu\text{V}/V_o$	
Output resistance	R_o	$f=1\text{KHz}$	25°C		10	$\text{m}\Omega$	
Short Circuit Current	I_{sc}	25°C		230		mA	
Peak Current	I_{pk}	25°C		2.2		A	

* Pulse test.

TYPICAL APPLICATION



Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.



Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

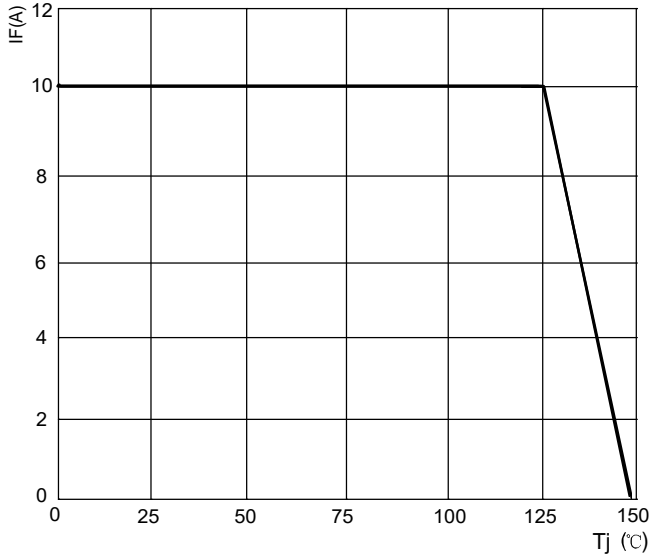


FIG.2: TYPICAL FORWARD CHARACTERISTICS

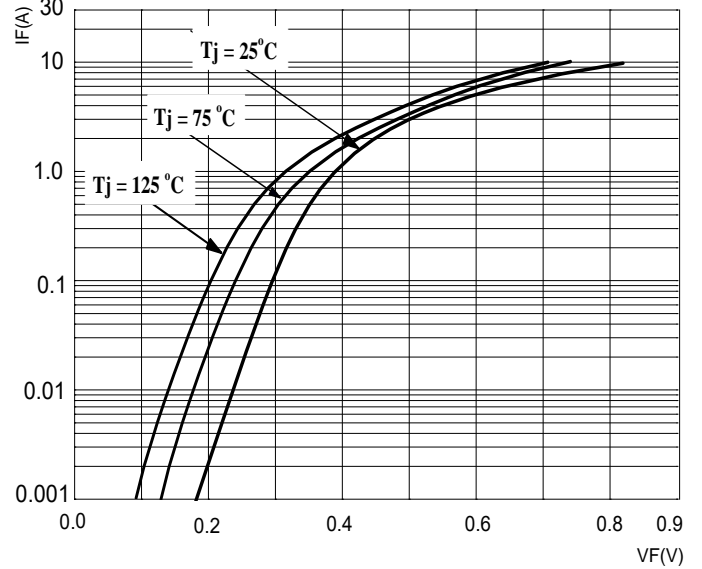


FIG.3: TOTAL CAPACITANCE DERATING CURVE

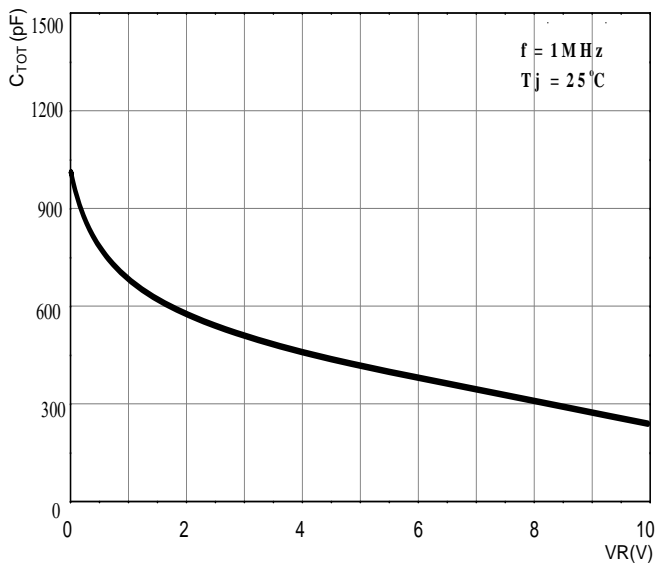
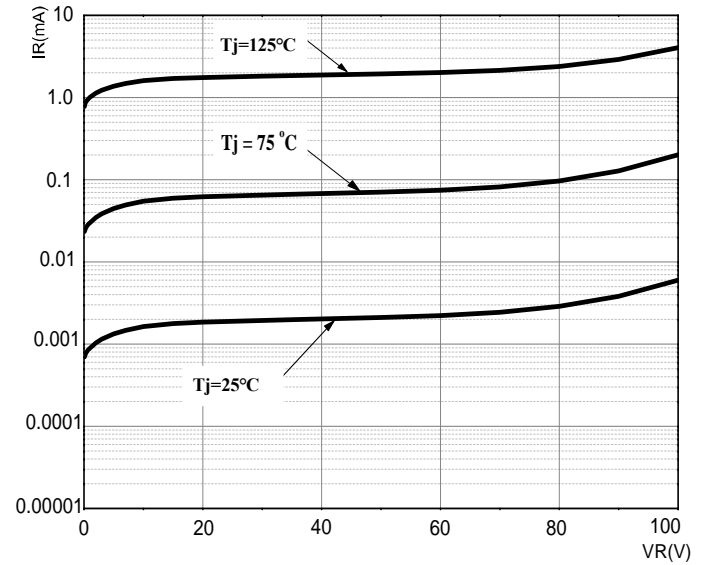


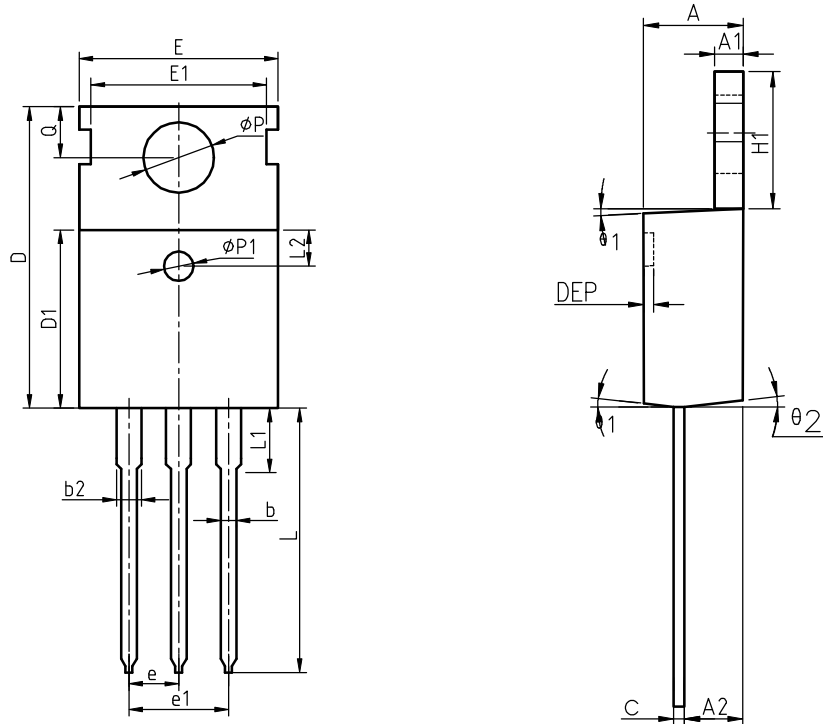
FIG.4: TYPICAL REVERSE CHARACTERISTICS





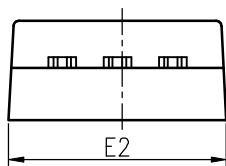
Package Information

TO-220



COMMON DIMENSIONS

SYMBOL	MIN	NOM	MAX	MIN	NOM	MAX
A	4.40	4.57	4.70	0.173	0.180	0.185
A1	1.27	1.30	1.33	0.050	0.051	0.052
A2	2.35	2.40	2.50	0.093	0.094	0.098
b	0.77	0.80	0.90	0.030	0.031	0.035
b2	1.17	1.27	1.36	0.046	0.050	0.054
c	0.48	0.50	0.56	0.019	0.020	0.022
D	15.40	15.60	15.80	0.606	0.614	0.622
D1	9.00	9.10	9.20	0.354	0.358	0.362
DEP	0.05	0.10	0.20	0.002	0.004	0.008
E	9.80	10.00	10.20	0.386	0.394	0.402
E1	-	8.70	-	-	0.343	-
E2	9.80	10.00	10.20	0.386	0.394	0.402
e		2.54	BSC		0.100	BSC
e1		5.08	BSC		0.200	BSC
H1	6.40	6.50	6.60	0.252	0.256	0.260
L	12.75	13.50	13.65	0.502	0.531	0.537
L1	-	3.10	3.30	-	0.122	0.130
L2		2.50	REF		0.098	REF
P	3.50	3.60	3.63	0.138	0.142	0.143
P1	3.50	3.60	3.63	0.138	0.142	0.143
Q	2.73	2.80	2.87	0.107	0.110	0.113
theta 1	5°	7°	9°	5°	7°	9°
theta 2	1°	3°	5°	1°	3°	5°
theta 3	1°	3°	5°	1°	3°	5°





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