

# GI78XXA

## 3-TERMINAL POSITIVE VOLTAGE REGULATORS

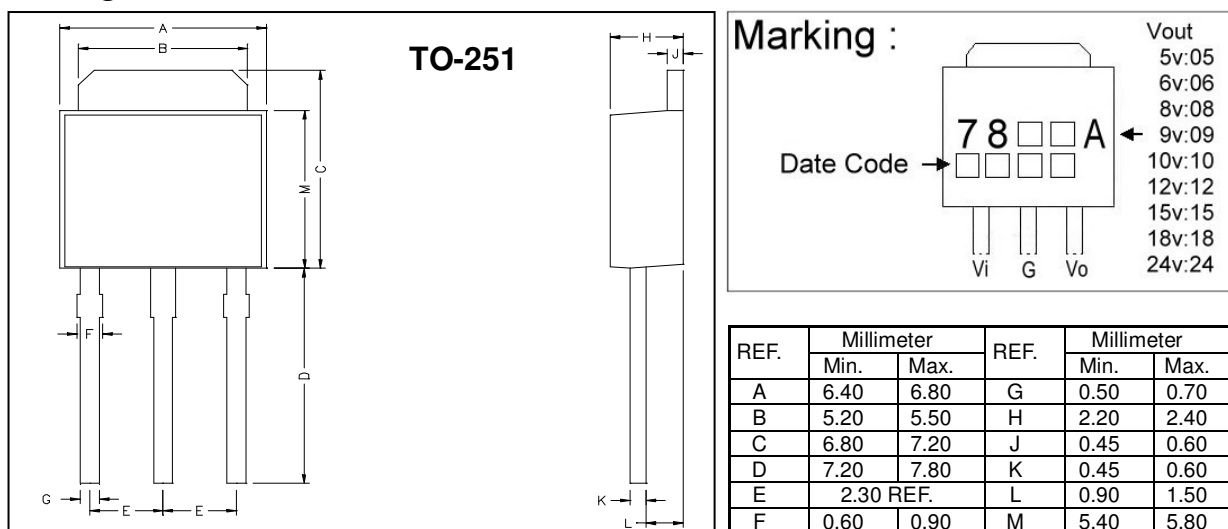
### Description

The GI78XXA series of fixed-voltage monolithic integrated-circuit voltage regulators designed for a wide range of applications. These applications include on-card regulation for elimination of noise and distribution problems associated with single-point regulation. Each of these regulators can deliver up to 1.5 amperes of output current. The internal current limiting and thermal shutdown features of these regulators make them essentially immune to overload.

### Features

- 5V, 6V, 8V, 9V, 10V, 12V, 15V, 18V, 24V output voltage available
- Internal Thermal Overload Protection
- High Power Dissipation Capability
- Internal Short-Circuit Current Limiting
- No External Components
- Output Transistor Safe-Area Compensation

### Package Dimensions



### Absolute Maximum Ratings

Parameter	Ratings	Unit
Input voltage	GI7805A ~ 18A	35V
	GI7824A	40V
Output current	1.5	A
Operating junction temperature range	0 ~ 150	°C
Storage temperature range	-55 ~ 150	°C
Thermal resistance junction-air (RθJA)	125	°C/W
Thermal resistance junction-cases (RθJC)	12.5	°C/W

## Electrical Characteristics

GI7805A (Refer to the test circuits, Tj=0~125°C, Io=500mA, Vin=10V, Cin=0.33μF, Co=0.1μF unless otherwise specified)

Symbol		Min.	Typ.	Max.	Unit	Test Conditions
VO	A-Rank (3%)	4.85	5.0	5.15	V	Vin=10V, Io=500mA, Tj=25°C 7.5V ≤ Vin ≤ 20V, 5mA ≤ Io ≤ 1A, PD ≤ 15W
	B-Rank (5%)	4.75	-	5.25		
ΔVO (Line Regulation)		-	3	100	mV	7V ≤ Vin ≤ 25V, Io=500mA, Tj=25°C
		-	1	50		8V ≤ Vin ≤ 12V, Io=500mA, Tj=25°C
ΔVO (Load Regulation)		-	15	100	mV	Vin=10V, 5mA ≤ Io ≤ 1.5A, Tj=25°C
		-	5	50		Vin=10V, 250mA ≤ Io ≤ 750mA, Tj=25°C
IQ		-	4.2	8.0	mA	Vin=10V, Io=500mA, Tj=25°C
Δ IQ		-	-	0.5	mA	Vin=10V, 5mA ≤ Io ≤ 1A
		-	-	1.3		7V ≤ Vin ≤ 25V, Io=500mA
Vn		-	40	-	μV	10Hz ≤ f ≤ 100KHz, Tj=25°C
RR		62	-	-	dB	8V ≤ Vin ≤ 18V, f=120Hz, Tj=25°C
VD		-	2.0	-	V	Io=1A, Tj=25°C
Isc		-	750	-	mA	Vin=10V, Tj=25°C
Ipk		-	2.2	-	A	Tj=25°C
ΔVo / ΔTj		-	-1.1	-	mV/°C	Io=5mA, 0°C ≤ Tj ≤ 125°C

GI7806A (Refer to the test circuits, Tj=0~125°C, Io=500mA, Vin=11V, Cin=0.33μF, Co=0.1μF unless otherwise specified)

Symbol		Min.	Typ.	Max.	Unit	Test Conditions
VO	A-Rank (3%)	5.82	6.0	6.18	V	Vin=11V, Io=500mA, Tj=25°C 8V ≤ Vin ≤ 21V, 5mA ≤ Io ≤ 1A, PD ≤ 15W
	B-Rank (5%)	5.70	-	6.30		
ΔVO (Line Regulation)		-	5	120	mV	8V ≤ Vin ≤ 25V, Io=500mA, Tj=25°C
		-	1.5	60		9V ≤ Vin ≤ 13V, Io=500mA, Tj=25°C
ΔVO (Load Regulation)		-	14	120	mV	Vin=11V, 5mA ≤ Io ≤ 1.5A, Tj=25°C
		-	4	60		Vin=11V, 250mA ≤ Io ≤ 750mA, Tj=25°C
IQ		-	4.3	8.0	mA	Vin=11V, Io=500mA, Tj=25°C
Δ IQ		-	-	0.5	mA	Vin=11V, 5mA ≤ Io ≤ 1A
		-	-	1.3		8V ≤ Vin ≤ 25V, Io=500mA
Vn		-	45	-	μV	10Hz ≤ f ≤ 100KHz, Tj=25°C
RR		59	-	-	dB	9V ≤ Vin ≤ 19V, f=120Hz, Tj=25°C
VD		-	2.0	-	V	Io=1A, Tj=25°C
Isc		-	550	-	mA	Vin=11V, Tj=25°C
Ipk		-	2.2	-	A	Tj=25°C
ΔVo / ΔTj		-	-0.8	-	mV/°C	Io=5mA, 0°C ≤ Tj ≤ 125°C

**GI7808A** (Refer to the test circuits,  $T_j=0\sim 125^\circ\text{C}$ ,  $I_o=500\text{mA}$ ,  $V_{in}=14\text{V}$ ,  $C_{in}=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$  unless otherwise specified)

Symbol		Min.	Typ.	Max.	Unit	Test Conditions
VO	A-Rank (3%)	7.76	8.0	8.24	V	$V_{in}=14\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$ $10.5\text{V} \leq V_{in} \leq 23\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$ , $PD \leq 15\text{W}$
	B-Rank (5%)	7.60	-	8.40		
$\Delta\text{VO}$ (Line Regulation)		-	6	160	mV	$10.5\text{V} \leq V_{in} \leq 25\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
		-	2	80		$11\text{V} \leq V_{in} \leq 17\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta\text{VO}$ (Load Regulation)		-	12	160	mV	$V_{in}=14\text{V}$ , $5\text{mA} \leq I_o \leq 1.5\text{A}$ , $T_j=25^\circ\text{C}$
		-	4	80		$V_{in}=14\text{V}$ , $250\text{mA} \leq I_o \leq 750\text{mA}$ , $T_j=25^\circ\text{C}$
IQ		-	4.3	8.0	mA	$V_{in}=14\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta\text{IQ}$		-	-	0.5	mA	$V_{in}=14\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$
		-	-	1.0		$10.5\text{V} \leq V_{in} \leq 25\text{V}$ , $I_o=500\text{mA}$
Vn		-	52	-	$\mu\text{V}$	$10\text{Hz} \leq f \leq 100\text{KHz}$ , $T_j=25^\circ\text{C}$
RR		55	-	-	dB	$11.5\text{V} \leq V_{in} \leq 21.5\text{V}$ , $f=120\text{Hz}$ , $T_j=25^\circ\text{C}$
VD		-	2.0	-	V	$I_o=1\text{A}$ , $T_j=25^\circ\text{C}$
Isc		-	450	-	mA	$V_{in}=14\text{V}$ , $T_j=25^\circ\text{C}$
Ipk		-	2.2	-	A	$T_j=25^\circ\text{C}$
$\Delta\text{Vo} / \Delta\text{Tj}$		-	-0.8	-	$\text{mV}/^\circ\text{C}$	$I_o=5\text{mA}$ , $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$

**GI7809A** (Refer to the test circuits,  $T_j=0\sim 125^\circ\text{C}$ ,  $I_o=500\text{mA}$ ,  $V_{in}=16\text{V}$ ,  $C_{in}=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$  unless otherwise specified)

Symbol		Min.	Typ.	Max.	Unit	Test Conditions
VO	A-Rank (3%)	8.73	9.0	9.27	V	$V_{in}=16\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$ $11.5\text{V} \leq V_{in} \leq 24\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$ , $PD \leq 15\text{W}$
	B-Rank (5%)	8.55	-	9.45		
$\Delta\text{VO}$ (Line Regulation)		-	7	180	mV	$11.5\text{V} \leq V_{in} \leq 27\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
		-	2	90		$13\text{V} \leq V_{in} \leq 19\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta\text{VO}$ (Load Regulation)		-	12	180	mV	$V_{in}=16\text{V}$ , $5\text{mA} \leq I_o \leq 1.5\text{A}$ , $T_j=25^\circ\text{C}$
		-	4	90		$V_{in}=16\text{V}$ , $250\text{mA} \leq I_o \leq 750\text{mA}$ , $T_j=25^\circ\text{C}$
IQ		-	4.3	8.0	mA	$V_{in}=16\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta\text{IQ}$		-	-	0.5	mA	$V_{in}=16\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$
		-	-	1.0		$11.5\text{V} \leq V_{in} \leq 27\text{V}$ , $I_o=500\text{mA}$
Vn		-	60	-	$\mu\text{V}$	$10\text{Hz} \leq f \leq 100\text{KHz}$ , $T_j=25^\circ\text{C}$
RR		55	-	-	dB	$12\text{V} \leq V_{in} \leq 22\text{V}$ , $f=120\text{Hz}$ , $T_j=25^\circ\text{C}$
VD		-	2.0	-	V	$I_o=1\text{A}$ , $T_j=25^\circ\text{C}$
Isc		-	400	-	mA	$V_{in}=16\text{V}$ , $T_j=25^\circ\text{C}$
Ipk		-	2.2	-	A	$T_j=25^\circ\text{C}$
$\Delta\text{Vo} / \Delta\text{Tj}$		-	-1.0	-	$\text{mV}/^\circ\text{C}$	$I_o=5\text{mA}$ , $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$

**GI7810A** (Refer to the test circuits,  $T_j=0\sim 125^\circ\text{C}$ ,  $I_o=500\text{mA}$ ,  $V_{in}=17\text{V}$ ,  $C_{in}=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$  unless otherwise specified)

Symbol		Min.	Typ.	Max.	Unit	Test Conditions
VO	A-Rank (3%)	9.70	10.0	10.30	V	$V_{in}=17\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$ $12.5\text{V} \leq V_{in} \leq 25\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$ , $PD \leq 15\text{W}$
	B-Rank (5%)	9.50	-	10.50		
$\Delta VO$ (Line Regulation)		-	7	200	mV	$12.5\text{V} \leq V_{in} \leq 28\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
		-	2	100		$14\text{V} \leq V_{in} \leq 20\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta VO$ (Load Regulation)		-	12	200	mV	$V_{in}=17\text{V}$ , $5\text{mA} \leq I_o \leq 1.5\text{A}$ , $T_j=25^\circ\text{C}$
		-	4	100		$V_{in}=17\text{V}$ , $250\text{mA} \leq I_o \leq 750\text{mA}$ , $T_j=25^\circ\text{C}$
IQ		-	4.3	8.0	mA	$V_{in}=17\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta IQ$		-	-	0.5	mA	$V_{in}=17\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$
		-	-	1.0		$12.5\text{V} \leq V_{in} \leq 28\text{V}$ , $I_o=500\text{mA}$
Vn		-	70	-	$\mu\text{V}$	$10\text{Hz} \leq f \leq 100\text{KHz}$ , $T_j=25^\circ\text{C}$
RR		55	-	-	dB	$13\text{V} \leq V_{in} \leq 23\text{V}$ , $f=120\text{Hz}$ , $T_j=25^\circ\text{C}$
VD		-	2.0	-	V	$I_o=1\text{A}$ , $T_j=25^\circ\text{C}$
Isc		-	400	-	mA	$V_{in}=17\text{V}$ , $T_j=25^\circ\text{C}$
Ipk		-	2.2	-	A	$T_j=25^\circ\text{C}$
$\Delta V_o / \Delta T_j$		-	-1.0	-	$\text{mV}/^\circ\text{C}$	$I_o=5\text{mA}$ , $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$

**GI7812A** (Refer to the test circuits,  $T_j=0\sim 125^\circ\text{C}$ ,  $I_o=500\text{mA}$ ,  $V_{in}=19\text{V}$ ,  $C_{in}=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$  unless otherwise specified)

Symbol		Min.	Typ.	Max.	Unit	Test Conditions
VO	A-Rank (3%)	11.64	12.0	12.36	V	$V_{in}=19\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$ $14.5\text{V} \leq V_{in} \leq 27\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$ , $PD \leq 15\text{W}$
	B-Rank (5%)	11.40	-	12.60		
$\Delta VO$ (Line Regulation)		-	10	240	mV	$14.5\text{V} \leq V_{in} \leq 30\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
		-	3	120		$16\text{V} \leq V_{in} \leq 22\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta VO$ (Load Regulation)		-	12	240	mV	$V_{in}=19\text{V}$ , $5\text{mA} \leq I_o \leq 1.5\text{A}$ , $T_j=25^\circ\text{C}$
		-	4	120		$V_{in}=19\text{V}$ , $250\text{mA} \leq I_o \leq 750\text{mA}$ , $T_j=25^\circ\text{C}$
IQ		-	4.3	8.0	mA	$V_{in}=19\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta IQ$		-	-	0.5	mA	$V_{in}=19\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$
		-	-	1.0		$14.5\text{V} \leq V_{in} \leq 30\text{V}$ , $I_o=500\text{mA}$
Vn		-	75	-	$\mu\text{V}$	$10\text{Hz} \leq f \leq 100\text{KHz}$ , $T_j=25^\circ\text{C}$
RR		55	-	-	dB	$15\text{V} \leq V_{in} \leq 25\text{V}$ , $f=120\text{Hz}$ , $T_j=25^\circ\text{C}$
VD		-	2.0	-	V	$I_o=1\text{A}$ , $T_j=25^\circ\text{C}$
Isc		-	350	-	mA	$V_{in}=19\text{V}$ , $T_j=25^\circ\text{C}$
Ipk		-	2.2	-	A	$T_j=25^\circ\text{C}$
$\Delta V_o / \Delta T_j$		-	-1.0	-	$\text{mV}/^\circ\text{C}$	$I_o=5\text{mA}$ , $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$

**GI7815A** (Refer to the test circuits,  $T_j=0\sim 125^\circ\text{C}$ ,  $I_o=500\text{mA}$ ,  $V_{in}=23\text{V}$ ,  $C_{in}=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$  unless otherwise specified)

Symbol		Min.	Typ.	Max.	Unit	Test Conditions
VO	A-Rank (3%)	14.55	15.0	15.45	V	$V_{in}=23\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$ $17.5\text{V} \leq V_{in} \leq 30\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$ , $PD \leq 15\text{W}$
	B-Rank (5%)	14.25	-	15.75		
$\Delta VO$ (Line Regulation)		-	12	300	mV	$17.5\text{V} \leq V_{in} \leq 30\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
		-	3	150		$20\text{V} \leq V_{in} \leq 26\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta VO$ (Load Regulation)		-	12	300	mV	$V_{in}=23\text{V}$ , $5\text{mA} \leq I_o \leq 1.5\text{A}$ , $T_j=25^\circ\text{C}$
		-	4	150		$V_{in}=23\text{V}$ , $250\text{mA} \leq I_o \leq 750\text{mA}$ , $T_j=25^\circ\text{C}$
IQ		-	4.3	8.0	mA	$V_{in}=23\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta IQ$		-	-	0.5	mA	$V_{in}=23\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$
		-	-	1.0		$17.5\text{V} \leq V_{in} \leq 30\text{V}$ , $I_o=500\text{mA}$
Vn		-	90	-	$\mu\text{V}$	$10\text{Hz} \leq f \leq 100\text{KHz}$ , $T_j=25^\circ\text{C}$
RR		54	-	-	dB	$18.5\text{V} \leq V_{in} \leq 28.5\text{V}$ , $f=120\text{Hz}$ , $T_j=25^\circ\text{C}$
VD		-	2.0	-	V	$I_o=1\text{A}$ , $T_j=25^\circ\text{C}$
Isc		-	230	-	mA	$V_{in}=19\text{V}$ , $T_j=25^\circ\text{C}$
Ipk		-	2.1	-	A	$T_j=25^\circ\text{C}$
$\Delta VO / \Delta T_j$		-	-1.0	-	$\text{mV}/^\circ\text{C}$	$I_o=5\text{mA}$ , $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$

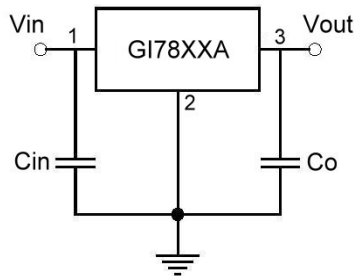
**GI7818A** (Refer to the test circuits,  $T_j=0\sim 125^\circ\text{C}$ ,  $I_o=500\text{mA}$ ,  $V_{in}=27\text{V}$ ,  $C_{in}=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$  unless otherwise specified)

Symbol		Min.	Typ.	Max.	Unit	Test Conditions
VO	A-Rank (3%)	17.46	18.0	18.54	V	$V_{in}=27\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$ $21\text{V} \leq V_{in} \leq 33\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$ , $PD \leq 15\text{W}$
	B-Rank (5%)	17.10	-	18.9		
$\Delta VO$ (Line Regulation)		-	15	360	mV	$21\text{V} \leq V_{in} \leq 33\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
		-	5	180		$24\text{V} \leq V_{in} \leq 30\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta VO$ (Load Regulation)		-	12	360	mV	$V_{in}=27\text{V}$ , $5\text{mA} \leq I_o \leq 1.5\text{A}$ , $T_j=25^\circ\text{C}$
		-	4	180		$V_{in}=27\text{V}$ , $250\text{mA} \leq I_o \leq 750\text{mA}$ , $T_j=25^\circ\text{C}$
IQ		-	4.5	8.0	mA	$V_{in}=27\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta IQ$		-	-	0.5	mA	$V_{in}=27\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$
		-	-	1.0		$21\text{V} \leq V_{in} \leq 33\text{V}$ , $I_o=500\text{mA}$
Vn		-	110	-	$\mu\text{V}$	$10\text{Hz} \leq f \leq 100\text{KHz}$ , $T_j=25^\circ\text{C}$
RR		53	-	-	dB	$22\text{V} \leq V_{in} \leq 32\text{V}$ , $f=120\text{Hz}$ , $T_j=25^\circ\text{C}$
VD		-	2.0	-	V	$I_o=1\text{A}$ , $T_j=25^\circ\text{C}$
Isc		-	200	-	mA	$V_{in}=27\text{V}$ , $T_j=25^\circ\text{C}$
Ipk		-	2.1	-	A	$T_j=25^\circ\text{C}$
$\Delta VO / \Delta T_j$		-	-1.0	-	$\text{mV}/^\circ\text{C}$	$I_o=5\text{mA}$ , $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$

**GI7824A** (Refer to the test circuits,  $T_j=0\sim 125^\circ\text{C}$ ,  $I_o=500\text{mA}$ ,  $V_{in}=33\text{V}$ ,  $C_{in}=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$  unless otherwise specified)

Symbol		Min.	Typ.	Max.	Unit	Test Conditions
VO	A-Rank (3%)	23.28	24.0	24.72	V	$V_{in}=33\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$ $27\text{V} \leq V_{in} \leq 38\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$ , $PD \leq 15\text{W}$
	B-Rank (5%)	22.80	-	25.20		
$\Delta VO$ (Line Regulation)		-	18	480	mV	$27\text{V} \leq V_{in} \leq 38\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
		-	6	240		$30\text{V} \leq V_{in} \leq 36\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta VO$ (Load Regulation)		-	12	480	mV	$V_{in}=33\text{V}$ , $5\text{mA} \leq I_o \leq 1.5\text{A}$ , $T_j=25^\circ\text{C}$
		-	4	240		$V_{in}=33\text{V}$ , $250\text{mA} \leq I_o \leq 750\text{mA}$ , $T_j=25^\circ\text{C}$
IQ		-	4.6	8.0	mA	$V_{in}=33\text{V}$ , $I_o=500\text{mA}$ , $T_j=25^\circ\text{C}$
$\Delta IQ$		-	-	0.5	mA	$V_{in}=33\text{V}$ , $5\text{mA} \leq I_o \leq 1\text{A}$
		-	-	1.0		$27\text{V} \leq V_{in} \leq 38\text{V}$ , $I_o=500\text{mA}$
Vn		-	170	-	$\mu\text{V}$	$10\text{Hz} \leq f \leq 100\text{KHz}$ , $T_j=25^\circ\text{C}$
RR		50	-	-	dB	$28\text{V} \leq V_{in} \leq 38\text{V}$ , $f=120\text{Hz}$ , $T_j=25^\circ\text{C}$
VD		-	2.0	-	V	$I_o=1\text{A}$ , $T_j=25^\circ\text{C}$
Isc		-	150	-	mA	$V_{in}=33\text{V}$ , $T_j=25^\circ\text{C}$
Ipk		-	2.1	-	A	$T_j=25^\circ\text{C}$
$\Delta V_o / \Delta T_j$		-	-1.5	-	$\text{mV}/^\circ\text{C}$	$I_o=5\text{mA}$ , $0^\circ\text{C} \leq T_j \leq 125^\circ\text{C}$

## Typical Application


**Important Notice:**

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of GTM.
- GTM reserves the right to make changes to its products without notice.
- GTM semiconductor products are not warranted to be suitable for use in life-support Applications, or systems.
- GTM assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.

**Head Office And Factory:**

- **Taiwan:** No. 17-1 Tatung Rd. Fu Kou Hsin-Chu Industrial Park, Hsin-Chu, Taiwan, R. O. C.
- TEL : 886-3-597-7061 FAX : 886-3-597-9220, 597-0785
- **China:** (201203) No.255, Jang-Jiang Tsai-Lueng RD. , Pu-Dung-Hsin District, Shang-Hai City, China
- TEL : 86-21-5895-7671 ~ 4 FAX : 86-21-38950165