Description

The AS78XXA series are three terminal positive voltage regulators designed for a wide variety of applications including local, on-card regulation.

The AS78XXA are complete with internal current limiting, thermal shutdown protection, and safe-area compensation which make them virtually immune from output overload. If adequate heat sinking is provided, these regulators can deliver output currents up to 1A.

The AS78XXA are available in TO-252-2 (3), TO-252-2 (4), TO-252-2 (5), TO-220-3, TO-220-3 (2) and TO-220F-3 packages.

Applications

- High Efficiency Linear Regulator
- Post Regulation for Switching Supply
- Microprocessor Power Supply
- Mother Board

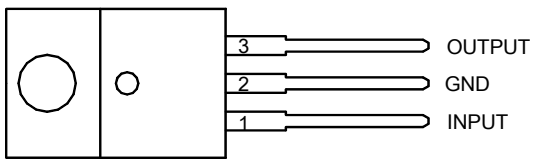
Features

- Output Current up to 1A
- Fixed Output Voltages of 5V, 6V, 8V, 9V, 12V, 15V and 18V
- Output Voltage Accuracy of ±4% over the Full Temperature Range
- Internal Short Circuit Current Limiting
- Internal Thermal Overload Protection
- Output Transistor Safe-area Protection
- Low Load Regulation
- Stable Performance in High Temperature
- TO-220-3, TO-220-3 (2) and TO-220F-3
  - **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- Lead-Free Packages: TO-252-2 (3), TO-252-2 (4), TO-252-2 (5)
  - **Totally Lead-Free; RoHS Compliant (Notes 4 & 2)**
- Available in “Green” Packages: TO-220-3, TO-220-3 (2) and TO-220F-3
  - **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
  - **Halogen and Antimony Free. “Green” Device (Note 3)**
- Lead-Free Packages, Available in “Green” Molding Compound: TO-252-2 (3), TO-252-2 (4), TO-252-2 (5)
  - **Totally Lead-Free & Fully RoHS Compliant (Notes 4 & 2)**
  - **Halogen and Antimony Free. “Green” Device (Note 3)**

Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated’s definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.

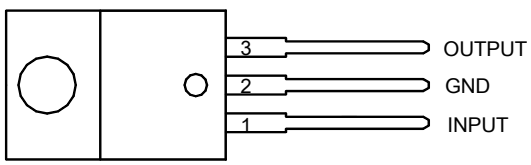
Pin Assignments

(Front View)



TO-220-3 (Option 1)

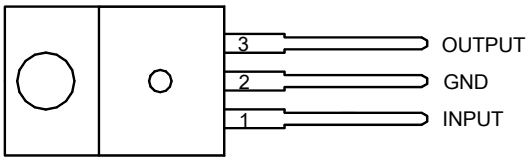
(Front View)



TO-220-3 (Option 2)

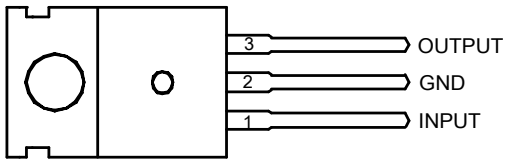
Pin Assignments (Cont.)

(Front View)



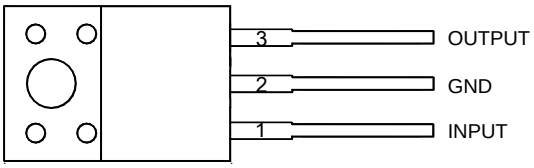
TO-220-3 (Option 3)

(Front View)



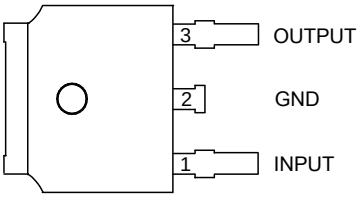
TO-220-3 (2)

(Front View)



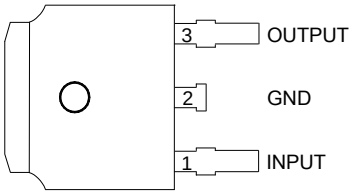
TO-220F-3

(Top View)



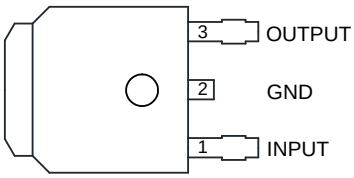
TO-252-2 (3) (Option 1)

(Top View)



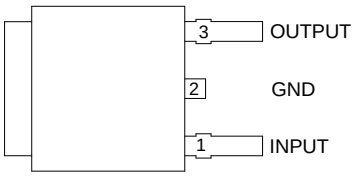
TO-252-2 (3) (Option 2)

(Top View)



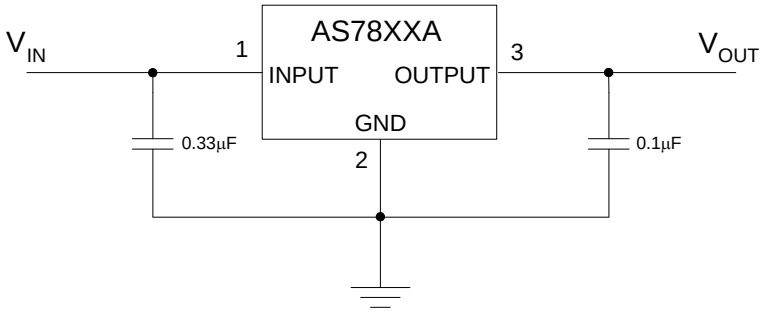
TO-252-2 (4)

(Top View)



TO-252-2 (5)

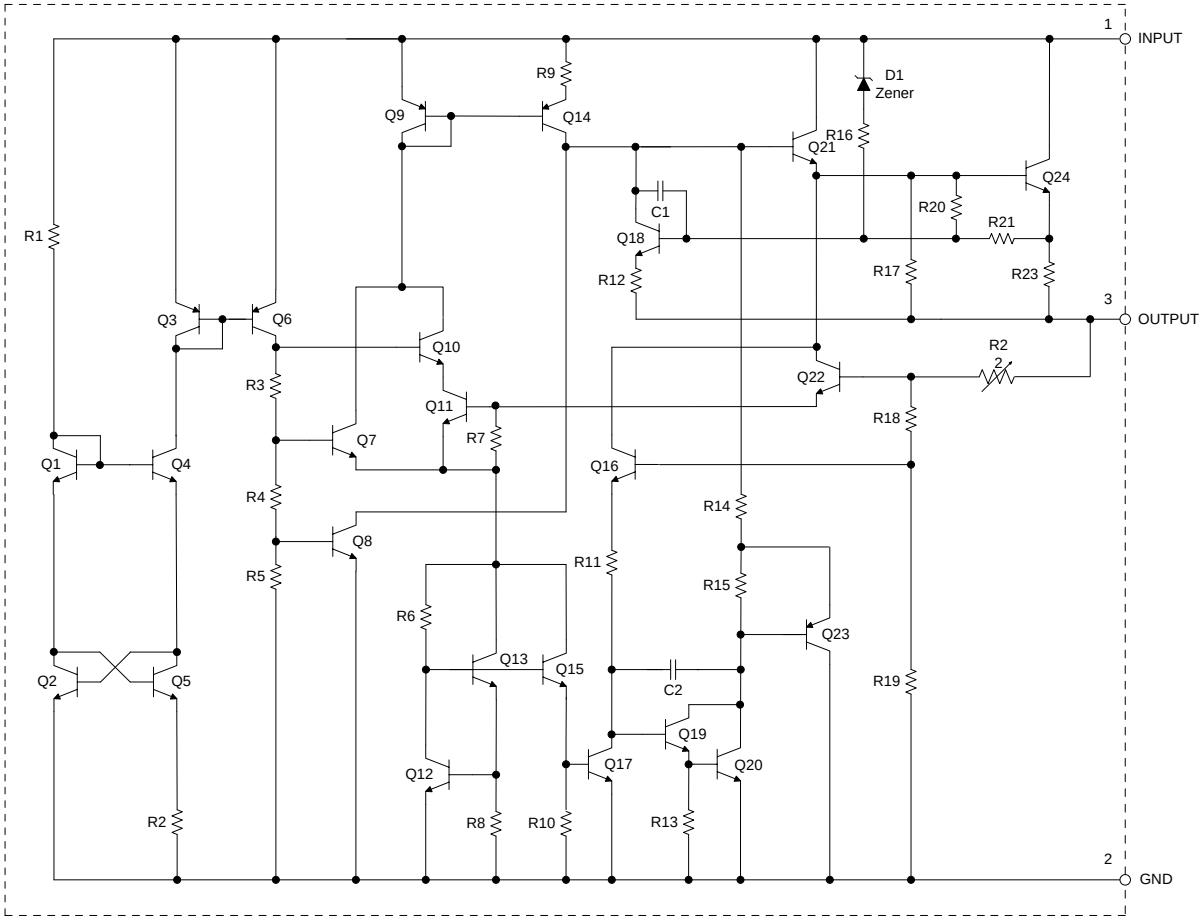
Typical Applications Circuit



Pin Descriptions

Pin Number	Pin Name	Function
1	INPUT	Voltage Input
2	GND	Ground
3	OUTPUT	Voltage Output

Functional Block Diagram



Absolute Maximum Ratings (Note 5)

Symbol	Parameter	Rating		Unit
V_{IN}	Input Voltage	36		V
T_{LEAD}	Lead Temperature (Soldering, 10sec)	+260		°C
P_D	Power Dissipation	Internally Limited		W
T_J	Operating Junction Temperature	+150		°C
T_{STG}	Storage Temperature Range	-65 to +150		°C
θ_{JA}	Thermal Resistance	TO-220-3/TO-220-3 (2)	60	°C/W
		TO-252-2 (3)/TO-252-2 (4)/TO-252-2 (5)	100	
		TO-220F-3	60	
ESD	ESD (Human Body Model)	6000		V
ESD	ESD (Machine Model)	500		V

Note 5: Stresses greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "Recommended Operating Conditions" is not implied. Exposure to "Absolute Maximum Ratings" for extended periods may affect device reliability.

Recommended Operating Conditions

Symbol	Parameter		Min	Max	Unit
V_{IN}	Input Voltage	AS7805A	—	25	V
		AS7806A	—	26	
		AS7808A	—	28	
		AS7809A	—	29	
		AS7812A	—	32	
		AS7815A	—	32	
		AS7818A	—	32	
T_J	Operating Junction Temperature Range		-40	+125	°C

Electrical Characteristics

AS7805A (@ V_{IN} = 10V, I_{OUT} = 1A, T_J = -40 to +125°C, unless otherwise specified.)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{OUT}	Output Voltage	T_J = +25°C	4.9	5	5.1	V
		I_{OUT} = 5mA to 1A, V_{IN} = 7.5V to 20V, $P_D \leq$ 15W	4.8	—	5.2	
V_{RLINE}	Line Regulation	V_{IN} = 7.5V to 20V, I_{OUT} = 500mA, T_J = +25°C	—	25	50	mV
V_{RLOAD}	Load Regulation	V_{IN} = 10V, I_{OUT} = 5mA to 1A, T_J = +25°C	—	20	50	mV
I_Q	Quiescent Current	V_{IN} = 10V, I_{OUT} = 0	—	3.2	6	mA
ΔI_Q	Quiescent Current Change	V_{IN} = 8V to 25V, I_{OUT} = 500mA, T_J = +25°C	—	0.3	0.8	mA
		I_{OUT} = 5mA to 1A, T_J = +25°C	—	0.08	0.5	
PSRR	Ripple Rejection	V_{IN} = 8V to 18V, f = 120Hz, I_{OUT} = 500mA	—	70	—	dB
V_{DROP}	Dropout Voltage	ΔV_{OUT} = 1%, I_{OUT} = 1A, T_J = +25°C	—	2	—	V
N_O	Output Noise Voltage	f = 10Hz to 100kHz, T_A = +25°C	—	10	—	$\mu V/V_O$
R_O	Output Resistance	f = 1kHz	—	10	—	mΩ
I_{SC}	Short Circuit Current	V_{IN} = 35V, T_A = +25°C	—	0.05	—	A
I_{PK}	Peak Output Current	V_{IN} = 10V, T_J = +25°C	—	2.2	—	A
$\Delta V_{OUT}/\Delta T$	Output Voltage Temperature Coefficient	—	—	0.4	—	mV/°C
$(\Delta V_{OUT}/V_{OUT})/\Delta T$		—	—	80	—	ppm/°C
θ_{JC}	Thermal Resistance	TO-220-3/TO-220-3 (2)	—	9	—	°C/W
		TO-252-2 (3)/ TO-252-2 (4)/ TO-252-2 (5)	—	16	—	
		TO-220F-3	—	9	—	

Electrical Characteristics (Cont.)

AS7806A (@ V_{IN} = 11V, I_{OUT} = 1A, T_J = -40 to +125°C, unless otherwise specified.)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{OUT}	Output Voltage	T_J = +25°C	5.88	6	6.12	V
		I_{OUT} = 5mA to 1A, V_{IN} = 8.6V to 21V, $P_D \leq$ 15W	5.76	—	6.24	
V_{RLINE}	Line Regulation	V_{IN} = 8.6V to 21V, I_{OUT} = 500mA, T_J = +25°C	—	25	60	mV
V_{RLOAD}	Load Regulation	V_{IN} = 11V, I_{OUT} = 5mA to 1A, T_J = +25°C	—	20	60	mV
I_Q	Quiescent Current	V_{IN} = 11V, I_{OUT} = 0	—	3.2	6	mA
ΔI_Q	Quiescent Current Change	V_{IN} = 8.6V to 21V, I_{OUT} = 500mA, T_J = +25°C	—	0.3	0.8	mA
		I_{OUT} = 5mA to 1A, T_J = +25°C	—	0.08	0.5	
PSRR	Ripple Rejection	V_{IN} = 9.5V to 19.5V, f = 120Hz, I_{OUT} = 500mA	—	65	—	dB
V_{DROP}	Dropout Voltage	ΔV_{OUT} = 1%, I_{OUT} = 1A, T_J = +25°C	—	2	—	V
N_O	Output Noise Voltage	f = 10Hz to 100kHz, T_A = 25°C	—	10	—	$\mu V/V_O$
R_O	Output Resistance	f = 1kHz	—	10	—	mΩ
I_{SC}	Short Circuit Current	V_{IN} = 35V, T_A = +25°C	—	0.2	—	A
I_{PK}	Peak Output Current	V_{IN} = 11V, T_J = +25°C	—	2.2	—	A
$\Delta V_{OUT}/\Delta T$	Output Voltage Temperature Coefficient	—	—	0.5	—	mV/°C
$(\Delta V_{OUT}/V_{OUT})/\Delta T$		—	—	80	—	ppm/°C
θ_{JC}	Thermal Resistance	TO-220-3/TO-220-3 (2)	—	9	—	°C/W
		TO-252-2 (3)/ TO-252-2 (4)/ TO-252-2 (5)	—	16	—	
		TO-220F-3	—	9	—	

Electrical Characteristics (Cont.)

AS7808A (@ V_{IN} = 14V, I_{OUT} = 1A, T_J = -40 to +125°C, unless otherwise specified.)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{OUT}	Output Voltage	T_J = +25°C	7.84	8	8.16	V
		I_{OUT} = 5mA to 1A, V_{IN} = 10.6V to 23V, $P_D \leq$ 15W	7.7	—	8.3	
V_{RLINE}	Line Regulation	V_{IN} = 10.6V to 23V, I_{OUT} = 500mA, T_J = +25°C	—	25	75	mV
V_{RLOAD}	Load Regulation	V_{IN} = 14V, I_{OUT} = 5mA to 1A, T_J = +25°C	—	25	75	mV
I_Q	Quiescent Current	V_{IN} = 14V, I_{OUT} = 0	—	3.2	6	mA
ΔI_Q	Quiescent Current Change	V_{IN} = 10.6V to 23V, I_{OUT} = 500mA, T_J = +25°C	—	0.3	0.8	mA
		I_{OUT} = 5mA to 1A, T_J = +25°C	—	0.08	0.5	
PSRR	Ripple Rejection	V_{IN} = 11.5V to 21.5V, f = 120Hz, I_{OUT} = 500mA	—	62	—	dB
V_{DROP}	Dropout Voltage	ΔV_{OUT} = 1%, I_{OUT} = 1A, T_J = +25°C	—	2	—	V
N_O	Output Noise Voltage	f = 10Hz to 100kHz, T_A = +25°C	—	10	—	μV/V_O
R_O	Output Resistance	f = 1kHz	—	10	—	mΩ
I_{SC}	Short Circuit Current	V_{IN} = 35V, T_A = +25°C	—	0.2	—	A
I_{PK}	Peak Output Current	V_{IN} = 14V, T_J = +25°C	—	2.2	—	A
$\Delta V_{OUT}/\Delta T$	Output Voltage Temperature Coefficient	—	—	0.64	—	mV/°C
$(\Delta V_{OUT}/V_{OUT})/\Delta T$		—	—	80	—	ppm/°C
θ_{JC}	Thermal Resistance	TO-220-3/TO-220-3 (2)	—	9	—	°C/W
		TO-252-2 (3)/ TO-252-2 (4)/ TO-252-2 (5)	—	16	—	
		TO-220F-3	—	9	—	

Electrical Characteristics (Cont.)

AS7809A (@ V_{IN} = 15V, I_{OUT} = 1A, T_J = -40 to +125°C, unless otherwise specified.)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{OUT}	Output Voltage	T_J = +25°C	8.82	9	9.18	V
		I_{OUT} = 5mA to 1A, V_{IN} = 11.5V to 23V, $P_D \leq$ 15W	8.65	—	9.35	
V_{RLINE}	Line Regulation	V_{IN} = 11.5V to 23V, I_{OUT} = 500mA, T_J = +25°C	—	25	90	mV
V_{RLOAD}	Load Regulation	V_{IN} = 14V, I_{OUT} = 5mA to 1A, T_J = +25°C	—	25	100	mV
I_Q	Quiescent Current	V_{IN} = 15V, I_{OUT} = 0	—	3.2	6	mA
ΔI_Q	Quiescent Current Change	V_{IN} = 11.5V to 23V, I_{OUT} = 500mA, T_J = +25°C	—	0.3	0.8	mA
		I_{OUT} = 5mA to 1A, T_J = +25°C	—	0.08	0.5	
PSRR	Ripple Rejection	V_{IN} = 11.5V to 21.5V, f = 120Hz, I_{OUT} = 500mA	—	61	—	dB
V_{DROP}	Dropout Voltage	ΔV_{OUT} = 1%, I_{OUT} = 1A, T_J = +25°C	—	2	—	V
N_O	Output Noise Voltage	f = 10Hz to 100kHz, T_A = +25°C	—	10	—	$\mu V/V_O$
R_O	Output Resistance	f = 1kHz	—	10	—	mΩ
I_{SC}	Short Circuit Current	V_{IN} = 35V, T_A = +25°C	—	0.2	—	A
I_{PK}	Peak Output Current	V_{IN} = 15V, T_J = +25°C	—	2.2	—	A
$\Delta V_{OUT}/\Delta T$	Output Voltage Temperature Coefficient	—	—	0.72	—	mV/°C
$(\Delta V_{OUT}/V_{OUT})/\Delta T$		—	—	80	—	ppm/°C
θ_{JC}	Thermal Resistance	TO-220-3/TO-220-3 (2)	—	9	—	°C/W
		TO-252-2 (3)/ TO-252-2 (4)/ TO-252-2 (5)	—	16	—	
		TO-220F-3	—	9	—	

Electrical Characteristics (Cont.)

AS7812A (@ V_{IN} = 19V, I_{OUT} = 1A, T_J = -40 to +125°C, unless otherwise specified.)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{OUT}	Output Voltage	T_J = +25°C	11.75	12	12.25	V
		I_{OUT} = 5mA to 1A, V_{IN} = 14.8V to 27V, $P_D \leq$ 15W	11.5	—	12.5	
V_{RLINE}	Line Regulation	V_{IN} = 14.8V to 27V, I_{OUT} = 500mA, T_J = +25°C	—	25	120	mV
V_{RLOAD}	Load Regulation	V_{IN} = 19V, I_{OUT} = 5mA to 1A, T_J = +25°C	—	40	120	mV
I_Q	Quiescent Current	V_{IN} = 19V, I_{OUT} = 0	—	3.4	6	mA
ΔI_Q	Quiescent Current Change	V_{IN} = 14.8V to 30V, I_{OUT} = 500mA, T_J = +25°C	—	0.3	0.8	mA
		I_{OUT} = 5mA to 1A, T_J = +25°C	—	0.08	0.5	
PSRR	Ripple Rejection	V_{IN} = 15V to 25V, f = 120Hz, I_{OUT} = 500mA	—	60	—	dB
V_{DROP}	Dropout Voltage	ΔV_{OUT} = 1%, I_{OUT} = 1A, T_J = +25°C	—	2	—	V
N_O	Output Noise Voltage	f = 10Hz to 100kHz, T_A = +25°C	—	10	—	$\mu V/V_O$
R_O	Output Resistance	f = 1kHz	—	11	—	mΩ
I_{SC}	Short Circuit Current	V_{IN} = 35V, T_A = +25°C	—	0.2	—	A
I_{PK}	Peak Output Current	V_{IN} = 18V, T_J = +25°C	—	2.2	—	A
$\Delta V_{OUT}/\Delta T$	Output Voltage Temperature Coefficient	—	—	0.96	—	mV/°C
$(\Delta V_{OUT}/V_{OUT})/\Delta T$		—	—	80	—	ppm/°C
θ_{JC}	Thermal Resistance	TO-220-3/TO-220-3 (2)	—	9	—	°C/W
		TO-252-2 (3)/ TO-252-2 (4)/ TO-252-2 (5)	—	16	—	
		TO-220F-3	—	9	—	

Electrical Characteristics (Cont.)

AS7815A (@ V_{IN} = 23V, I_{OUT} = 1A, T_J = -40 to +125°C, unless otherwise specified.)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{OUT}	Output Voltage	T_J = +25°C	14.7	15	15.3	V
		I_{OUT} = 5mA to 1A, V_{IN} = 17.9V to 30V, $P_D \leq$ 15W	14.4	—	15.6	
V_{RLINE}	Line Regulation	V_{IN} = 17.9V to 30V, I_{OUT} = 500mA, T_J = +25°C	—	35	150	mV
V_{RLOAD}	Load Regulation	V_{IN} = 23V, I_{OUT} = 5mA to 1A, T_J = +25°C	—	70	150	mV
I_Q	Quiescent Current	V_{IN} = 23V, I_{OUT} = 0	—	3.4	6	mA
ΔI_Q	Quiescent Current Change	V_{IN} = 17.9V to 30V, I_{OUT} = 500mA, T_J = +25°C	—	0.3	0.8	mA
		I_{OUT} = 5mA to 1A, T_J = +25°C	—	0.08	0.5	
PSRR	Ripple Rejection	V_{IN} = 18.5V to 28.5V, f = 120Hz, I_{OUT} = 500mA	—	58	—	dB
V_{DROP}	Dropout Voltage	ΔV_{OUT} = 1%, I_{OUT} = 1A, T_J = +25°C	—	2	—	V
N_O	Output Noise Voltage	f = 10Hz to 100kHz, T_A = +25°C	—	10	—	$\mu V/V_O$
R_O	Output Resistance	f = 1kHz	—	11	—	mΩ
I_{SC}	Short Circuit Current	V_{IN} = 35V, T_A = +25°C	—	0.2	—	A
I_{PK}	Peak Output Current	V_{IN} = 21V, T_J = +25°C	—	2.2	—	A
$\Delta V_{OUT}/\Delta T$	Output Voltage Temperature Coefficient	—	—	1.2	—	mV/°C
$(\Delta V_{OUT}/V_{OUT})/\Delta T$		—	—	80	—	ppm/°C
θ_{JC}	Thermal Resistance	TO-220-3/TO-220-3 (2)	—	9	—	°C/W
		TO-252-2 (3)/ TO-252-2 (4)/ TO-252-2 (5)	—	16	—	
		TO-220F-3	—	9	—	

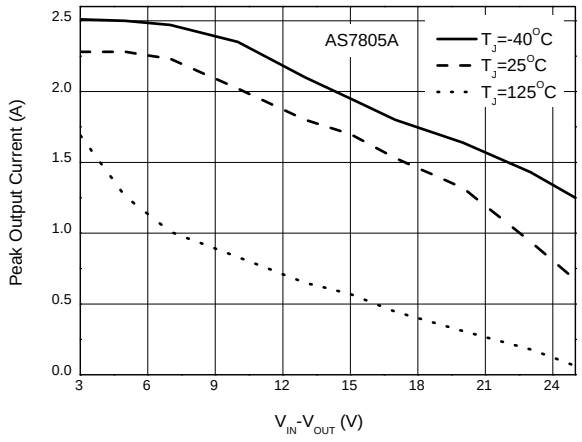
Electrical Characteristics (Cont.)

AS7818A (@ V_{IN} = 27V, I_{OUT} = 1A, T_J = -40 to +125°C, unless otherwise specified.)

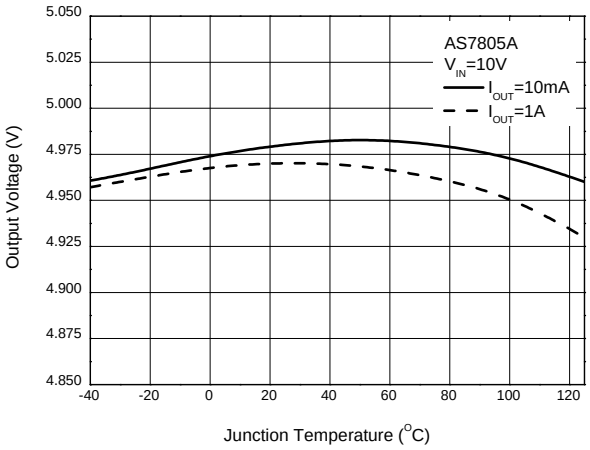
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{OUT}	Output Voltage	T_J = +25°C	17.64	18	18.36	V
		I_{OUT} = 5mA to 1A, V_{IN} = 21V to 33V, $P_D \leq$ 15W	17.3	—	18.7	
V_{RLINE}	Line Regulation	V_{IN} = 21V to 33V, I_{OUT} = 500mA, T_J = +25°C	—	45	180	mV
V_{RLOAD}	Load Regulation	V_{IN} = 27V, I_{OUT} = 5mA to 1A, T_J = +25°C	—	85	180	mV
I_Q	Quiescent Current	V_{IN} = 27V, I_{OUT} = 0	—	3.6	6	mA
ΔI_Q	Quiescent Current Change	V_{IN} = 21V to 33V, I_{OUT} = 500mA, T_J = +25°C	—	0.3	0.8	mA
		I_{OUT} = 5mA to 1A, T_J = +25°C	—	0.08	0.5	
PSRR	Ripple Rejection	V_{IN} = 22V to 32V, f = 120Hz, I_{OUT} = 500mA	—	57	—	dB
V_{DROP}	Dropout Voltage	ΔV_{OUT} = 1%, I_{OUT} = 1A, T_J = +25°C	—	2	—	V
N_O	Output Noise Voltage	f = 10Hz to 100kHz, T_A = +25°C	—	10	—	$\mu V/V_O$
R_O	Output Resistance	f = 1kHz	—	11	—	mΩ
I_{SC}	Short Circuit Current	V_{IN} = 35V, T_A = +25°C	—	0.2	—	A
I_{PK}	Peak Output Current	V_{IN} = 24V, T_J = +25°C	—	2.2	—	A
$\Delta V_{OUT}/\Delta T$	Output Voltage Temperature Coefficient	—	—	1.44	—	mV/°C
$(\Delta V_{OUT}/V_{OUT})/\Delta T$		—	—	80	—	ppm/°C
θ_{JC}	Thermal Resistance	TO-220-3/TO-220-3 (2)	—	9	—	°C/W
		TO-252-2 (3)/ TO-252-2 (4)/ TO-252-2 (5)	—	16	—	
		TO-220F-3	—	9	—	

Performance Characteristics

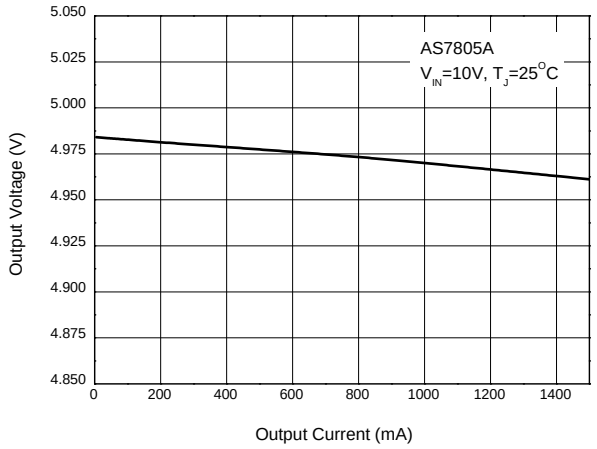
Peak Output Current vs. Input/Output Differential Voltage



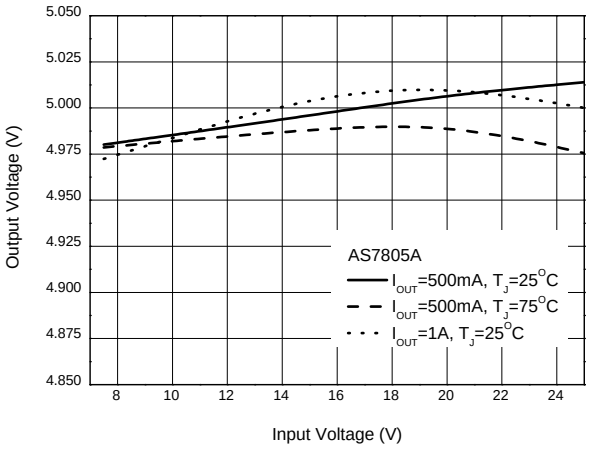
Output Voltage vs. Junction Temperature



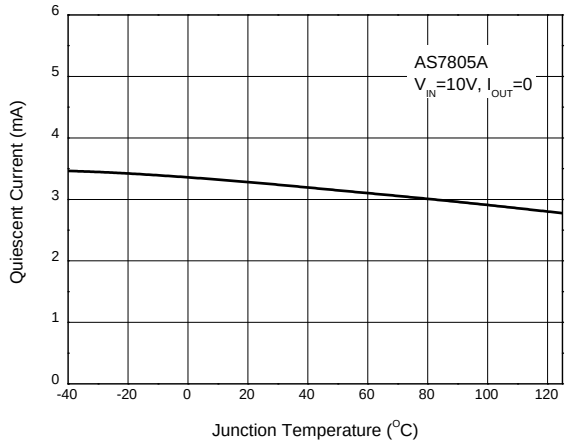
Output Voltage vs. Output Current



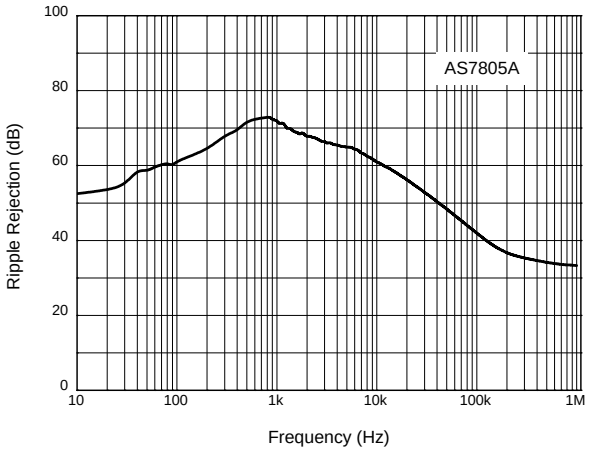
Output Voltage vs. Input Voltage



Quiescent Current vs. Junction Temperature

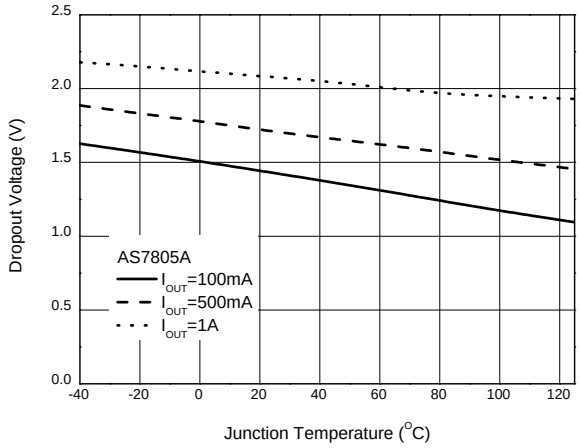


Ripple Rejection vs. Frequency

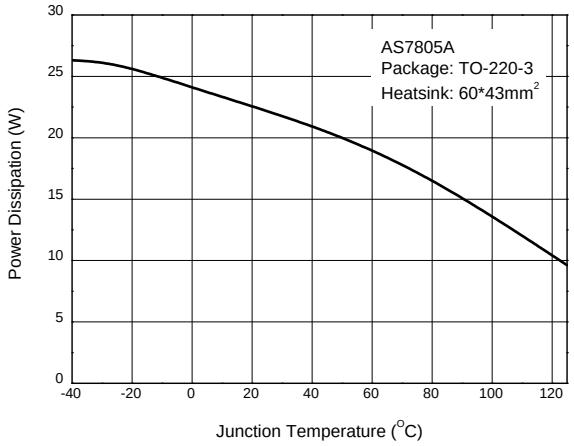


Performance Characteristics (Cont.)

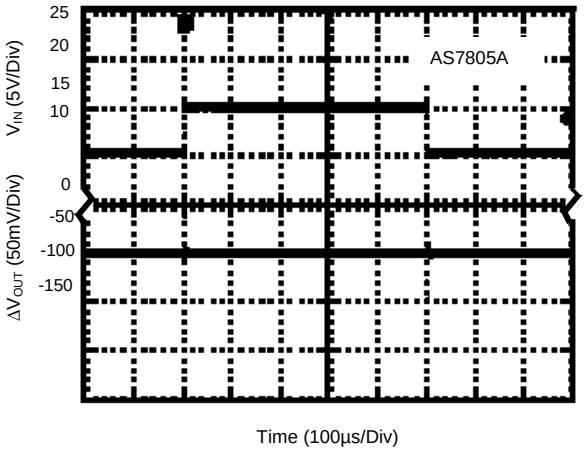
Dropout Voltage vs. Junction Temperature



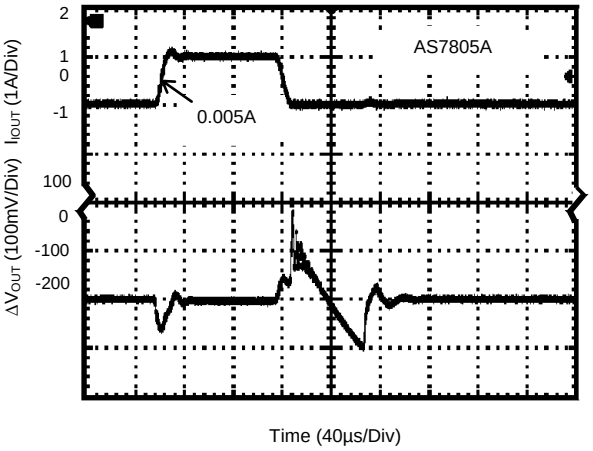
Power Dissipation vs. Junction Temperature



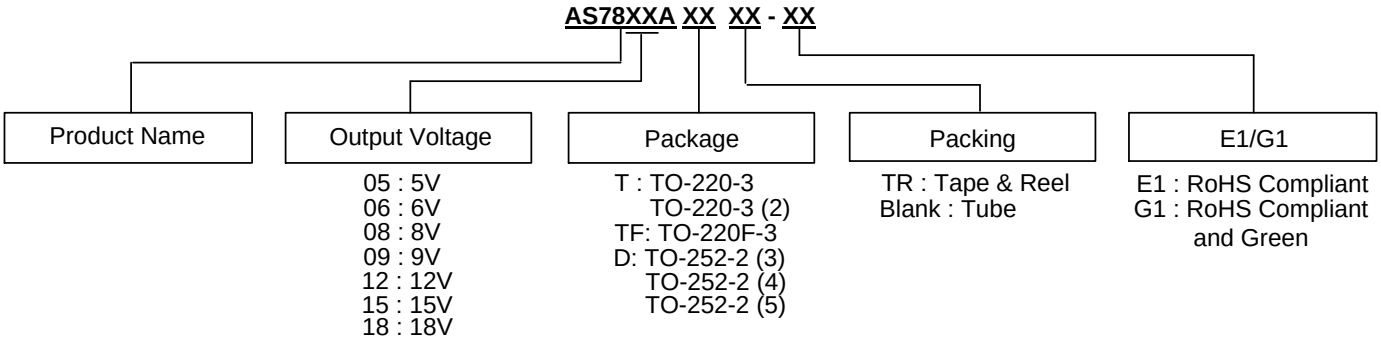
Line Transient
(Conditions: I_{OUT} = 500mA, C_{OUT} = 0.1µF)



Load Transient
(Conditions: V_{IN} = 10V, C_{IN} = 0.33µF, C_{OUT} = 0.1µF)



Ordering Information



	Part Number	Package (Note 7)	Output Voltage (V)	RoHS Compliant Lead Free/ Green	Marking ID	Packing	Quantity	Status (Note 6)	Alternative
Lead-Free	AS7805ADTR-E1	TO-252-2 (3)/(4)/(5)	5	Lead Free	AS7805AD-E1	Tape & Reel	2500	NRND	AS7805ADTR-G1
Lead-free Green	AS7805ADTR-G1		5	Green	AS7805AD-G1	Tape & Reel	2500	In Production	—
	AS7805AT-E1	TO-220-3/ (2)	5	Lead Free	AS7805AT-E1	Tube	1000	In Production	—
Green	AS7805AT-G1		5	Green	AS7805AT-G1	Tube	1000	In Production	—
	AS7805ATF-E1	TO-220F-3	5	Lead Free	AS7805ATF-E1	Tube	1000	In Production	—
Green	AS7805ATF-G1		5	Green	AS7805ATF-G1	Tube	1000	End of Life	AS7805ATF-E1
Lead-Free	AS7806ADTR-E1	TO-252-2 (3)/(4)/(5)	6	Lead Free	AS7806AD-E1	Tape & Reel	2500	NRND	AS7806ADTR-G1
Lead-free Green	AS7806ADTR-G1		6	Green	AS7806AD-G1	Tape & Reel	2500	In Production	—
	AS7806AT-E1	TO-220-3/ (2)	6	Lead Free	AS7806AT-E1	Tube	1000	In Production	—
Green	AS7806AT-G1		6	Green	AS7806AT-G1	Tube	1000	End of Life	AS7806AT-E1
	AS7806ATF-E1	TO-220F-3	6	Lead Free	AS7806ATF-E1	Tube	1000	End of Life	None
Green	AS7806ATF-G1		6	Green	AS7806ATF-G1	Tube	1000	End of Life	None
Lead-Free	AS7808ADTR-E1	TO-252-2 (3)/(4)/(5)	8	Lead Free	AS7808AD-E1	Tape & Reel	2500	End of Life	None
Lead-free Green	AS7808ADTR-G1		8	Green	AS7808AD-G1	Tape & Reel	2500	In Production	—
	AS7808AT-E1	TO-220-3/ (2)	8	Lead Free	AS7808AT-E1	Tube	1000	In Production	—
Green	AS7808AT-G1		8	Green	AS7808AT-G1	Tube	1000	End of Life	AS7808AT-E1
	AS7808ATF-E1	TO-220F-3	8	Lead Free	AS7808ATF-E1	Tube	1000	In Production	—
Green	AS7808ATF-G1		8	Green	AS7808ATF-G1	Tube	1000	End of Life	None
Lead-Free	AS7809ADTR-E1	TO-252-2 (3)/(4)/(5)	9	Lead Free	AS7809AD-E1	Tape & Reel	2500	NRND	AS78L05ZTR-G1
Lead-free Green	AS7809ADTR-G1		9	Green	AS7809AD-G1	Tape & Reel	2500	In Production	—
	AS7809AT-E1	TO-220-3/ (2)	9	Lead Free	AS7809AT-E1	Tube	1000	In Production	—
Green	AS7809AT-G1		9	Green	AS7809AT-G1	Tube	1000	End of Life	AS7809AT-E1
	AS7809ATF-E1	TO-220F-3	9	Lead Free	AS7809ATF-E1	Tube	1000	In Production	—
Green	AS7809ATF-G1		9	Green	AS7809ATF-G1	Tube	1000	End of Life	AS7809ATF-E1

Ordering Information (Cont.)

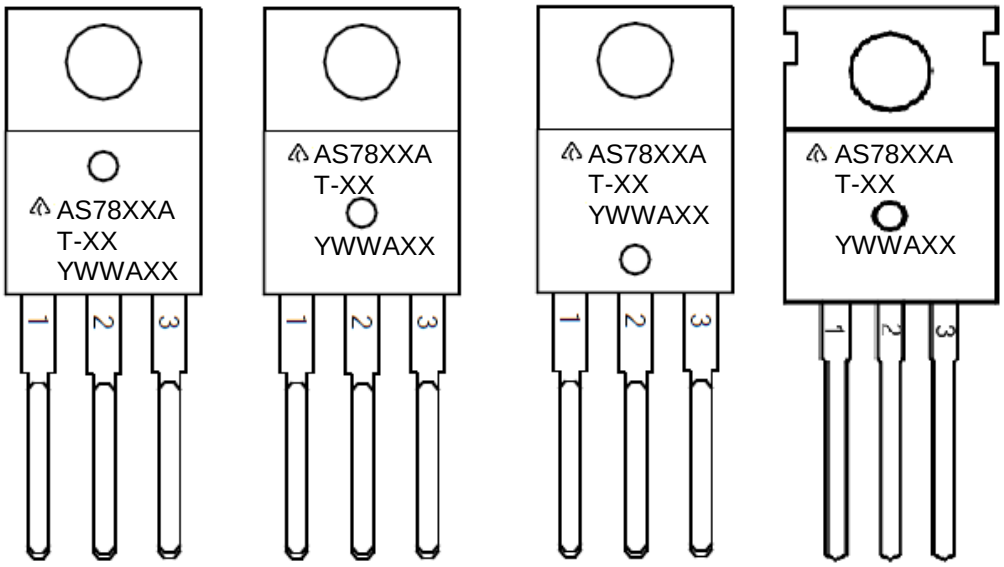
	Part Number	Package (Note 7)	Output Voltage (V)	RoHS Compliant Lead Free/ Green	Marking ID	Packing	Quantity	Status (Note 6)	Alternative
Lead-Free	AS7812ADTR-E1	TO-252-2 (3)/(4)/(5)	12	Lead Free	AS7812AD-E1	Tape & Reel	2500	NRND	AS7812ADTR-G1
Lead-free Green	AS7812ADTR-G1		12	Green	AS7812AD-G1	Tape & Reel	2500	In Production	—
	AS7812AT-E1	TO-220-3/ (2)	12	Lead Free	AS7812AT-E1	Tube	1000	In Production	—
Green	AS7812AT-G1		12	Green	AS7812AT-G1	Tube	1000	End of Life	AS7812AT-E1
	AS7812ATF-E1	TO-220F-3	12	Lead Free	AS7812ATF-E1	Tube	1000	End of Life	None
Green	AS7812ATF-G1		12	Green	AS7812ATF-G1	Tube	1000	End of Life	None
Lead-Free	AS7815ADTR-E1	TO-252-2 (3)/(4)/(5)	15	Lead Free	AS7815AD-E1	Tape & Reel	2500	End of Life	AS7815ADTR-G1
Lead-free Green	AS7815ADTR-G1		15	Green	AS7815AD-G1	Tape & Reel	2500	In Production	—
	AS7815AT-E1	TO-220-3/ (2)	15	Lead Free	AS7815AT-E1	Tube	1000	In Production	—
Green	AS7815AT-G1		15	Green	AS7815AT-G1	Tube	1000	In Production	—
	AS7815ATF-E1	TO-220F-3	15	Lead Free	AS7815ATF-E1	Tube	1000	In Production	—
Green	AS7815ATF-G1		15	Green	AS7815ATF-G1	Tube	1000	End of Life	AS7815ATF-E1
Lead-Free	AS7818ADTR-E1	TO-252-2 (3)/(4)/(5)	18	Lead Free	AS7818AD-E1	Tape & Reel	2500	NRND	AS7818ADTR-G1
Lead-free Green	AS7818ADTR-G1		18	Green	AS7818AD-G1	Tape & Reel	2500	In Production	—
	AS7818AT-E1	TO-220-3/ (2)	18	Lead Free	AS7818AT-E1	Tube	1000	End of Life	None
Green	AS7818AT-G1		18	Green	AS7818AT-G1	Tube	1000	End of Life	None
	AS7818ATF-E1	TO-220F-3	18	Lead Free	AS7818ATF-E1	Tube	1000	In Production	—
Green	AS7818ATF-G1		18	Green	AS7818ATF-G1	Tube	1000	End of Life	AS7818ATF-E1

Notes: 6. NRND: Not Recommended for New Design.
7. For packaging details, go to our website at: https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information

(1) TO-220-3/TO-220-3 (2)

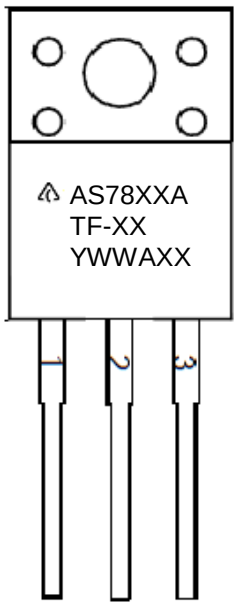
(Front View)



First and Second Lines: Logo and Marking ID
(See Ordering Information)
Third Line: Date Code
Y: Year
WW: Work Week of Molding
A: Assembly House Code
XX: Internal Code

(2) TO-220F-3

(Front View)

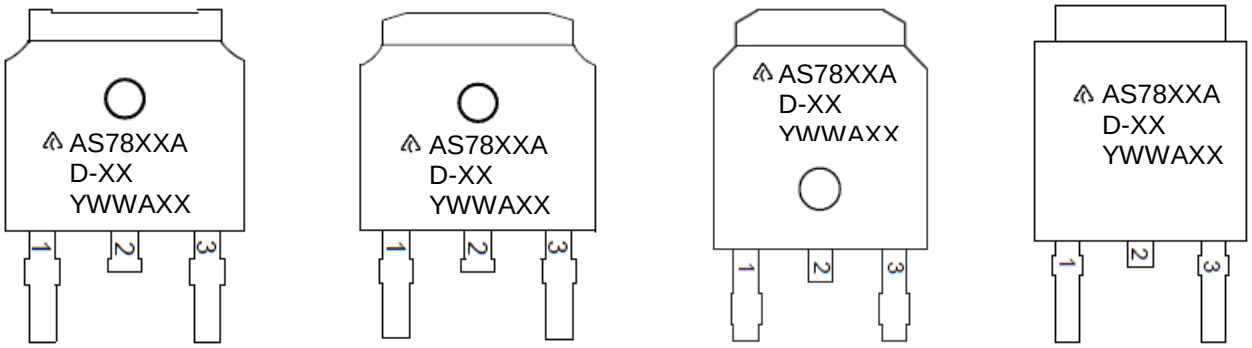


First and Second Lines: Logo and Marking ID
(See Ordering Information)
Third Line: Date Code
Y: Year
WW: Work Week of Molding
A: Assembly House Code
XX: Internal Code

Marking Information (Cont.)

(3) TO-252-2 (3)/(4)/(5)

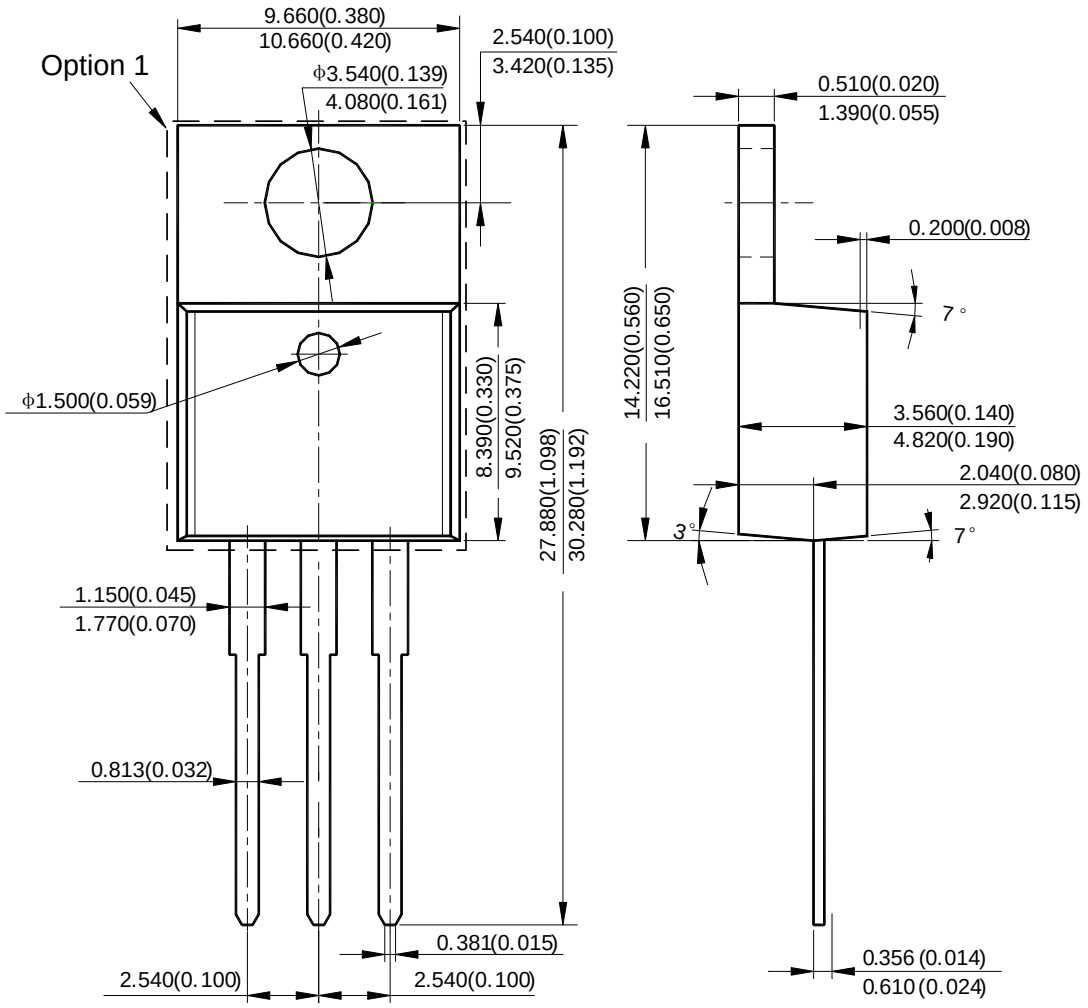
(Top View)



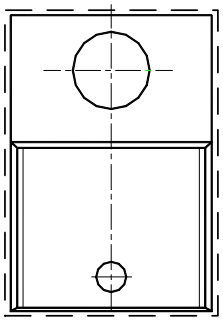
First and Second Lines: Logo and Marking ID
(See Ordering Information)
Third Line: Date Code
Y: Year
WW: Work Week of Molding
A: Assembly House Code
XX: Internal Code

Package Outline Dimensions (All dimensions in mm(inch).)

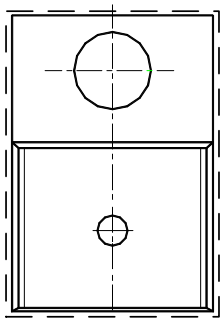
(1) Package Type: TO-220-3



Option 2

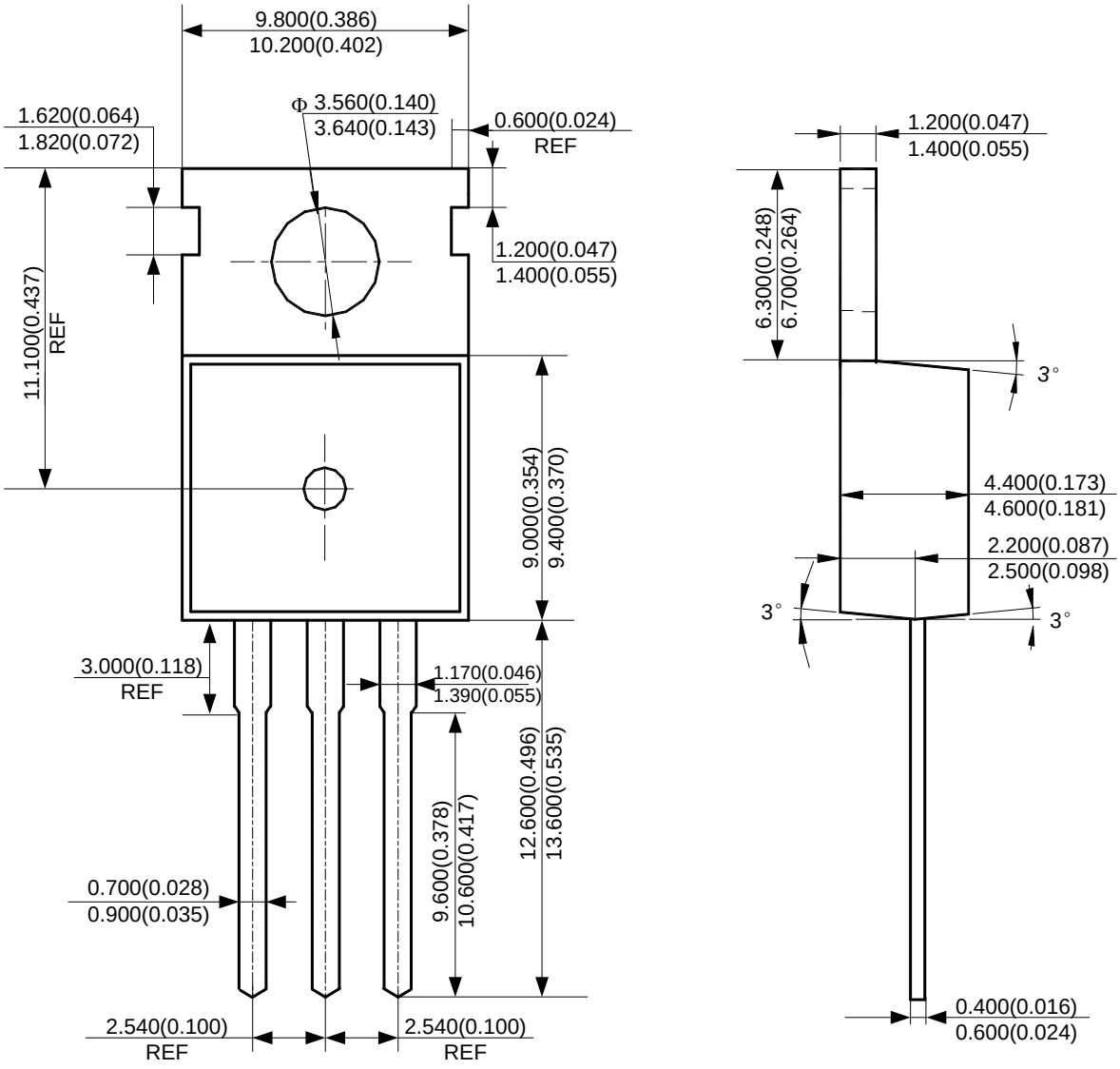


Option 3



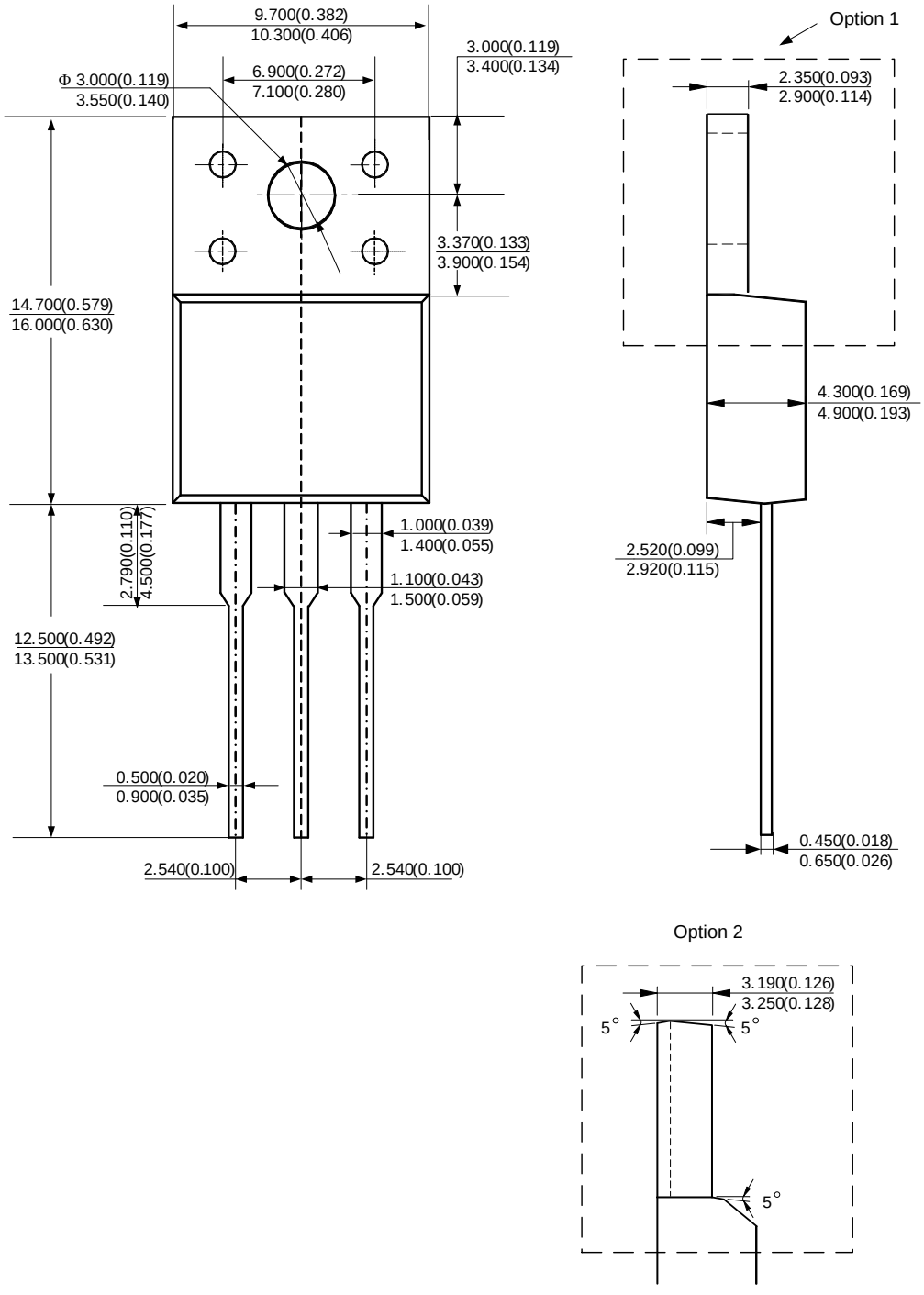
Package Outline Dimensions (Cont. All dimensions in mm(inch).)

(2) Package Type: TO-220-3 (2)



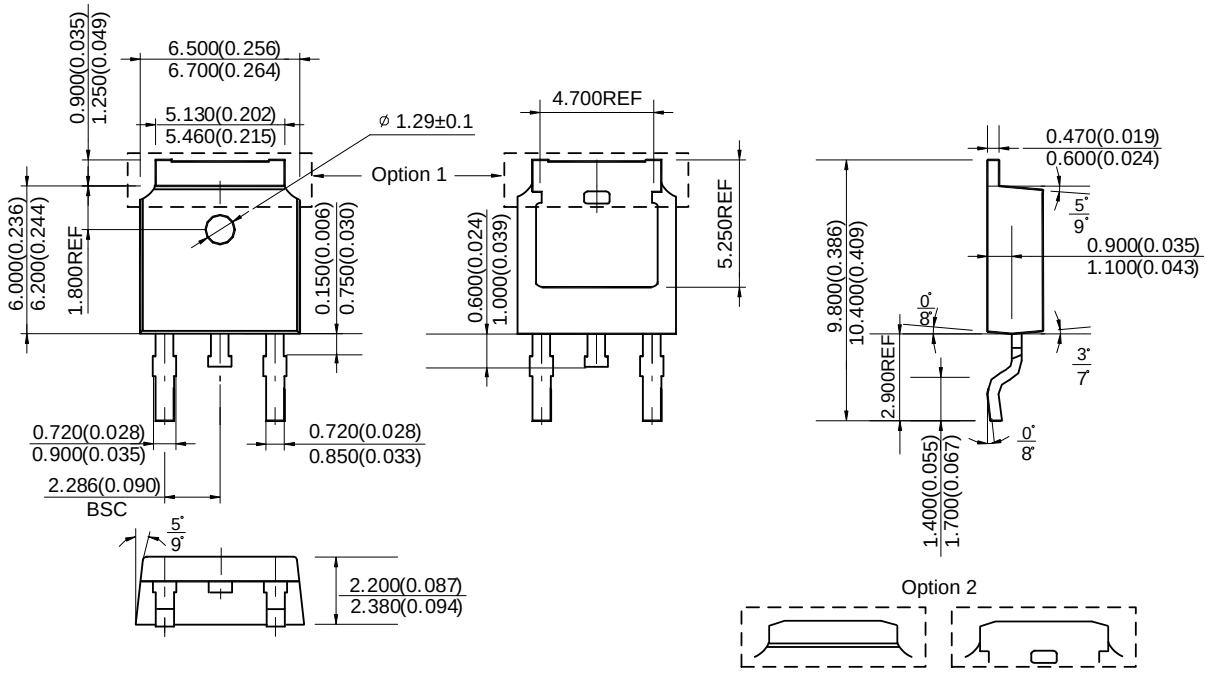
Package Outline Dimensions (Cont. All dimensions in mm(inch).)

(3) Package Type: TO-220F-3



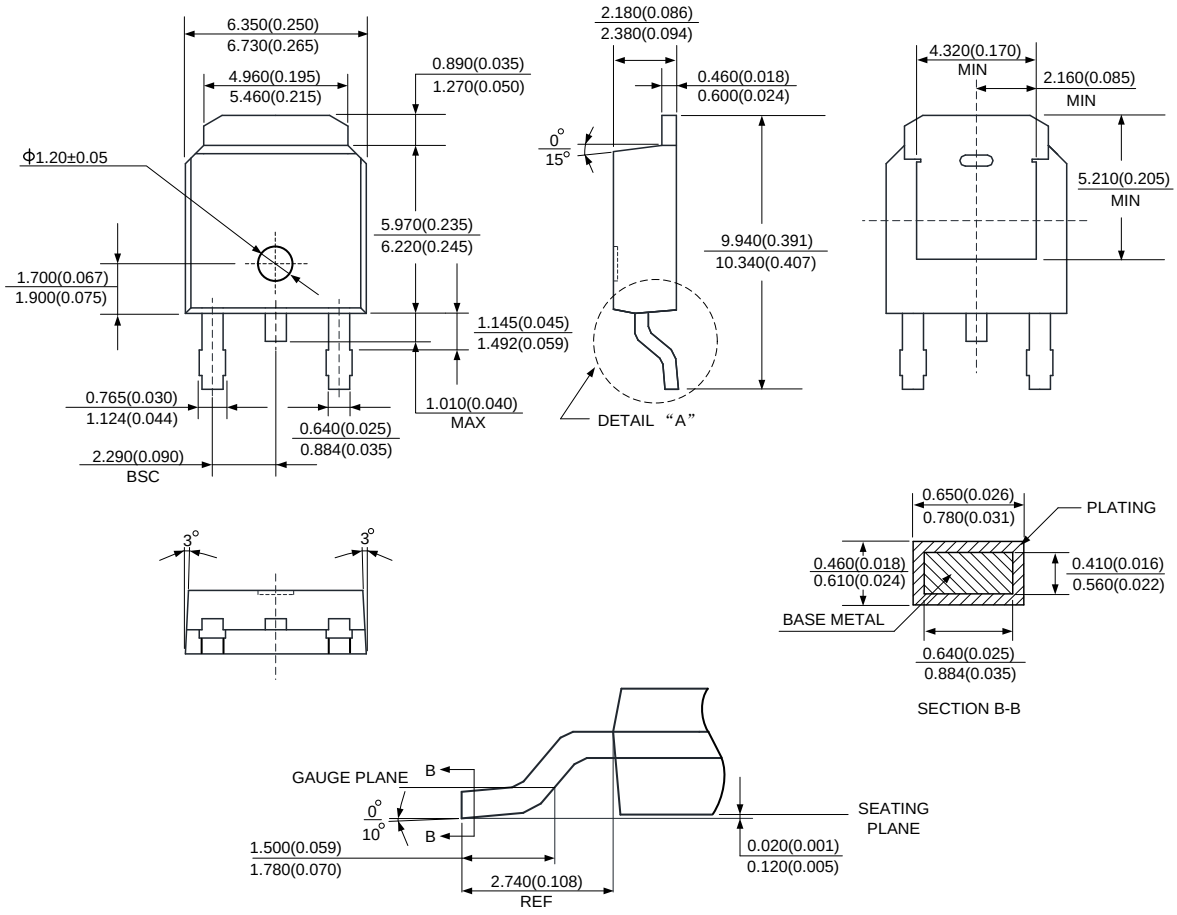
Package Outline Dimensions (Cont. All dimensions in mm(inch).)

(4) Package Type: TO-252-2 (3)



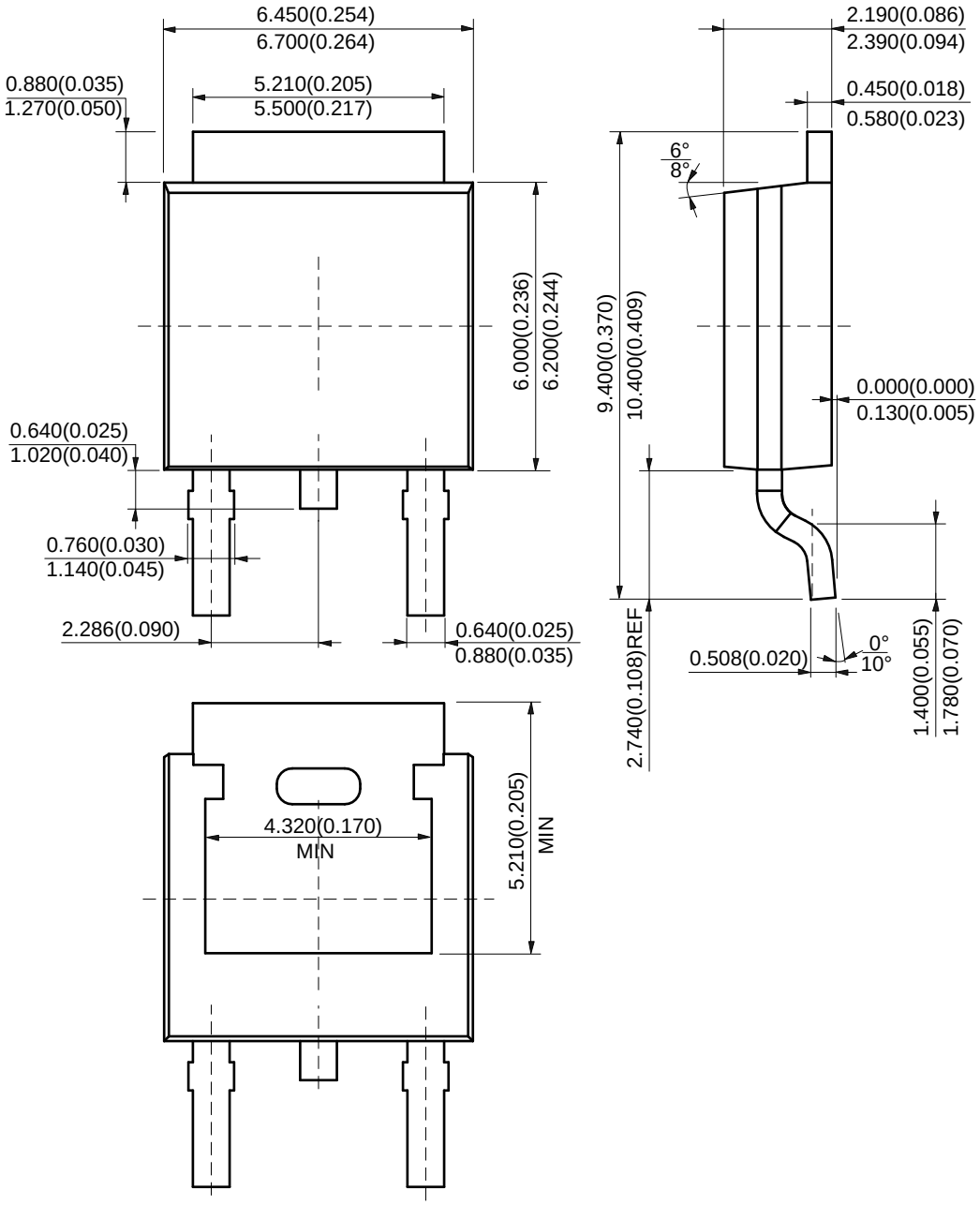
Package Outline Dimensions (Cont. All dimensions in mm(inch).)

(5) Package Type: TO-252-2 (4)



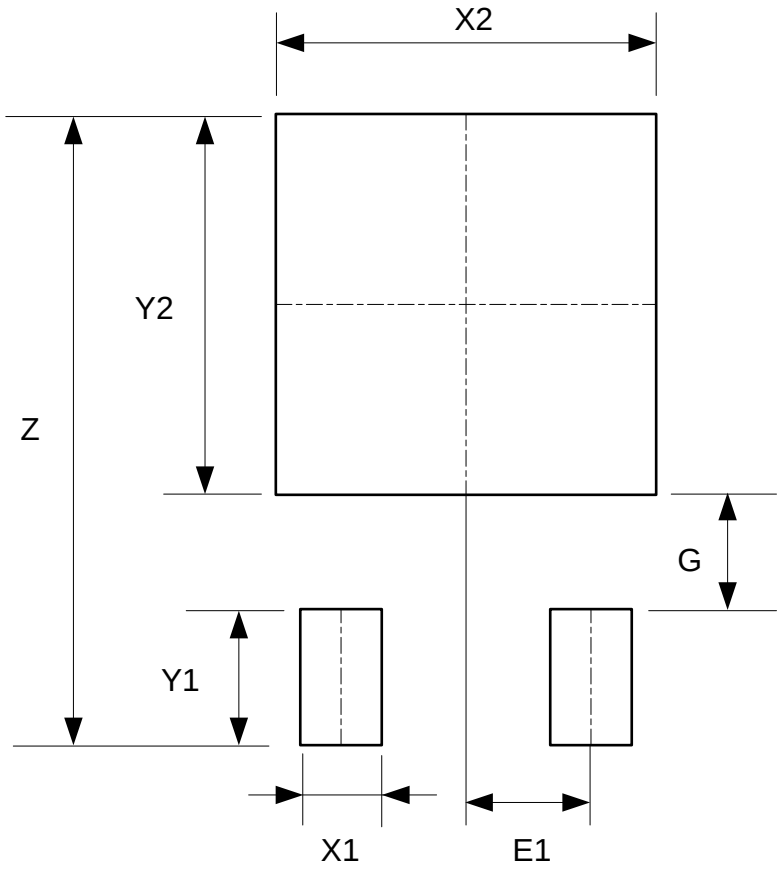
Package Outline Dimensions (Cont. All dimensions in mm(inch).)

(6) Package Type: TO-252-2 (5)



Suggested Pad Layout

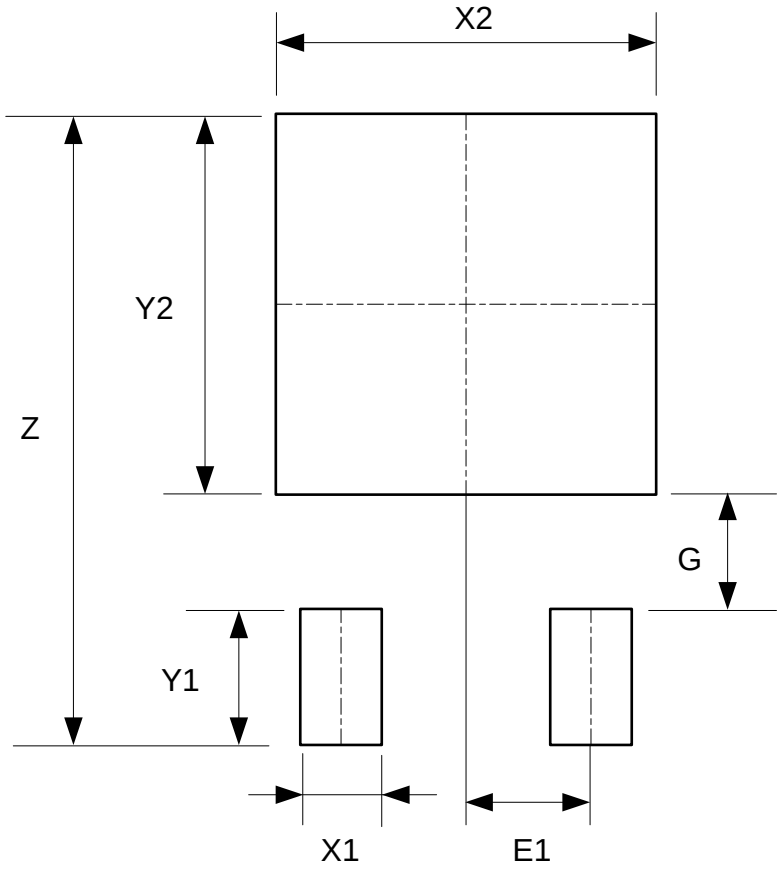
(1) Package Type: TO-252-2 (3)



Dimensions	Z (mm)/(inch)	X1 (mm)/(inch)	X2 = Y2 (mm)/(inch)	Y1 (mm)/(inch)	G (mm)/(inch)	E1 (mm)/(inch)
Value	11.600/0.457	1.500/0.059	7.000/0.276	2.500/0.098	2.100/0.083	2.300/0.091

Suggested Pad Layout (Cont.)

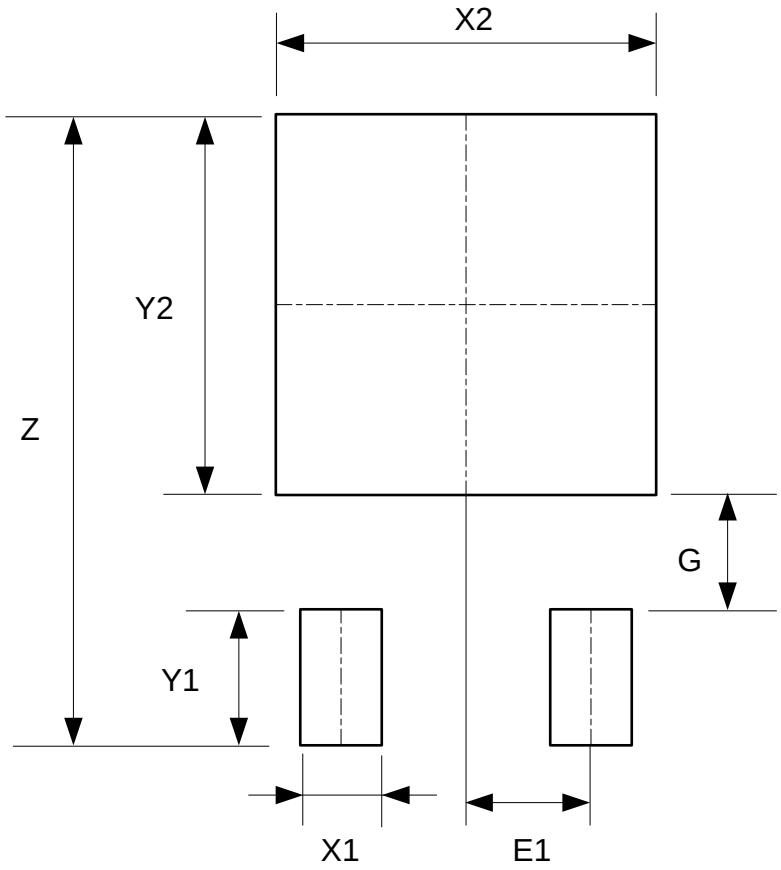
(2) Package Type: TO-252-2 (4)



Dimensions	Z (mm)/(inch)	X1 (mm)/(inch)	X2 = Y2 (mm)/(inch)	Y1 (mm)/(inch)	G (mm)/(inch)	E1 (mm)/(inch)
Value	11.600/0.457	1.500/0.059	7.000/0.276	2.500/0.098	2.100/0.083	2.300/0.091

Suggested Pad Layout (Cont.)

(3) Package Type: TO-252-2 (5)



Dimensions	Z (mm)/(inch)	X1 (mm)/(inch)	X2 = Y2 (mm)/(inch)	Y1 (mm)/(inch)	G (mm)/(inch)	E1 (mm)/(inch)
Value	11.600/0.457	1.500/0.059	7.000/0.276	2.500/0.098	2.100/0.083	2.300/0.091

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