

IP1R18A SERIES IP1R18 SERIES IP3R18A SERIES SERIES IP3R18

ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise stated)

				IP1R18A-05 IP3R18A-05			IP1R18-05 IP3R18-05			
Parameter		Test Conditions ²		Min.	зктва- Тур.	-ບວ Max.	Min.	73R18–0 Тур.	ກວ Max.	Units
r ai ailletei		Test Condition	0115 -	4.95	<u>тур.</u> 5	5.05	4.85	Typ.	5.15	\ \ \
	Output Voltage	I Fm A to F	Λ	4.33		3.03	4.00		3.13	V
Vo		I _O = 5mA to 5A		4.0=						
			$V_{IN} = 8V \text{ to } 20V$	4.85		5.15	4.75		5.25	V
		T _J = Over Temp. Range ¹								
ΔV_{O}	Line Regulation	$V_{IN} = 7.5V \text{ to } 3$	35V		3 15			6	30	m∨
ΔV_{l}	Line regulation	$I_0 = 5 \text{mA}^{3}$	T _J = Over Temp. Range ¹		6	30		12	60	''''
ΔV_{O}	Load Regulation	$I_O = 5$ mA to 5	A 3		5 25			10	50	201/
ΔI_{O}	Load Regulation		T _J = Over Temp. Range ¹		10	50		20	100	₩V
ΙQ	Quiescent Current	I _O = 5mA	T _J = Over Temp. Range ¹			7			7	mA
		$I_O = 5 \text{mA to } 5$	A						40	
l	Quiescent Current	T _J = Over Ten	np. Range ¹		10				10	
ΔI_{Q}	Change	I _O = 5mA	V _{IN} = 7.5V to 35V							mA
		$T_J = Over Ten$	np. Range ¹		3				3	
.,	Dropout Voltage	I _O = 5A	$\Delta V_{OUT} = 100 \text{mV}$					2.5	3	V
V_D		$T_J = Over Ten$			2.5	3				
	Ripple Rejection	I _O = 1A	f = 120Hz		80	60				
		$T_J = Over Ten$	np. Range ¹	60			60	80		dB
	Thermal Regulation	t _p = 20ms	$\Delta P = 50W$		0.002	0.01		0.002	0.02	%/W
I _{PEAK}	Peak Output Current	V _{IN} = 10V	T _J = Over Temp. Range ¹		8	12		8	12	Α
	Short Circuit Current	V _{IN} = 10V		7			7			
I _{SC}		V _{IN} = 35V			2 2			A		
e _n	Output Noise Voltage	f = 10Hz to 100kHz			40			40		μV
	Thermal Resistance	K Package			1.0	1.5		1.0	1.5	1
$R_{\theta JC}$	Junction to Case	V Package			1.0	1.5		1.0	1.5	°C/W

Notes

1) Applies over full temperature range:-

 $T_{.1} = -55 \text{ to } +150^{\circ}\text{C for IP1R18A} - 05 / \text{IP1R18} - 05$

0 to +125°C for IP3R18A-05 / IP3R18-05

All other specifications apply at $T_J = 25$ °C unless otherwise stated.

2) Test conditions unless otherwise stated:-

 $V_{IN} = 10V$, $I_{OUT} = 2.5A$.

Although Power Dissipation is internally limited, these specifications apply for Power Dissipation up to 50W.

3) Load and Line regulation are electrically independent and are measured using pulse techniques at low duty cycle in order to maintain constant junction temperature. To determine the effects on the output voltage due to device heating, refer to thermal regulation specification.

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Prelim. 9/00



IP1R18A SERIES IP1R18 SERIES IP3R18A SERIES IP3R18 SERIES

ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise stated)

			IP1R18A-12 IP3R18A-12			IP1R18-12				
Parameter		Test Conditions ²					Min.	3R18–		Units
Parameter		rest Condition	0115 -	Min.	Typ.	Max.		Typ.	Max.	
	Output Voltage			11.88	12	12.12	11.64	12	12.36	V
Vo		$I_0 = 5$ mA to 5A								
			$V_{IN} = 15V$ to 27V	11.64		12.36 11.40			12.60	V
		T _J = Over Temp. Range ¹								
ΔV_{O}	Line Regulation	$V_{IN} = 14.5V \text{ to}$	35V	5 30			10	60	mV	
ΔV_{I}	Line Regulation	$I_{O} = 5 \text{mA}^{3}$	T _J = Over Temp. Range ¹		10	60		20	120	IIIV
ΔV_{O}	Lood Dogulation	$I_O = 5$ mA to 5	Д 3		10 60			20	120	\/
ΔI_{O}	Load Regulation		T _J = Over Temp. Range ¹		20	120		40	240	mV
IQ	Quiescent Current	I _O = 5mA	T _J = Over Temp. Range ¹			7			7	mA
		$I_O = 5 \text{mA to } 5 \text{m}$	4		10				4.0	
١	Quiescent Current	T _J = Over Ten	np. Range ¹						10	,
ΔI_{Q}	Change	I _O = 5mA	$V_{IN} = 14.5V \text{ to } 35V$							mA
		$T_J = Over Ten$	np. Range ¹		3				3	
,,	Dropout Voltage	I _O = 5A	$\Delta V_{OUT} = 250 \text{mV}$		2.5	0		2.5	3	V
V_D		$T_J = Over Ten$	np. Range ¹			3				
	Ripple Rejection	I _O = 1A	f = 120Hz	50	72		52	72		dB
		$T_J = Over Ten$	np. Range ¹	52						
	Thermal Regulation	t _p = 20ms	$\Delta P = 50W$		0.002	0.01		0.002	0.02	%/W
I _{PEAK}	Peak Output Current	V _{IN} = 17V	T _J = Over Temp. Range ¹		8	12		8	12	Α
	Short Circuit Current	V _{IN} = 17V		4				4		
I _{SC}		V _{IN} = 35V			2			2		A
e _n	Output Noise Voltage				75			75		μV
	Thermal Resistance	K Package			1.0	1.5		1.0	1.5	0000
$R_{\theta JC}$	Junction to Case	V Package			1.0	1.5		1.0	1.5	°C/W

Notes

1) Applies over full temperature range:-

 $T_J = -55 \text{ to } +150^{\circ}\text{C for IP1R18A} - 12 / IP1R18 - 12$

 $T_J = 0 \text{ to } +125^{\circ}\text{C for IP3R18A} - 12 / \text{IP3R18} - 12$

All other specifications apply at $T_J = 25$ °C unless otherwise stated.

2) Test conditions unless otherwise stated:-

 $V_{IN} = 17V$, $I_{OUT} = 2.5A$.

Although Power Dissipation is internally limited, these specifications apply for Power Dissipation up to 50W.

3) Load and Line regulation are electrically independent and are measured using pulse techniques at low duty cycle in order to maintain constant junction temperature. To determine the effects on the output voltage due to device heating, refer to thermal regulation specification.

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IP1R18A SERIES IP1R18 SERIES IP3R18A SERIES IP3R18 SERIES

ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise stated)

				IP1R18A-15 IP3R18A-15			IP1R18-15 IP3R18-15				
Parameter		Test Conditions ²		IP. Min.	зк 18A- Тур.	Max.	Min.	′зк18–′ Тур.	Max.	Units	
i arameter		rest conditi	Olis	14.85	1 yp. 15	15.15	14.55	1 yp. 15	15.45	V	
	Output Voltage	$I_O = 5$ mA to 5	A	14.00	10	10.10	14.00	- 10	10.40	V	
Vo		ľ	$V_{IN} = 18V \text{ to } 30V$	14.55		15.45	14.25		15.75	V	
		T _J = Over Temp. Range ¹									
ΔV_{O}	11 B 1 d	V _{IN} = 17.5V to 35V			8	40		16	80		
ΔV_{I}	Line Regulation	I _O = 5mA ³	T _J = Over Temp. Range ¹		16	80		32	160	mV	
ΔV_{O}	Load Regulation	$I_O = 5$ mA to 5	A 3		16 80			32	160	m\/	
ΔI_{O}	Load Regulation		T _J = Over Temp. Range ¹		32	160		64	320	mV	
IQ	Quiescent Current	I _O = 5mA	T _J = Over Temp. Range ¹			7			7	mA	
		$I_O = 5$ mA to 5.	A		10				10		
	Quiescent Current	$T_J = Over Ten$	np. Range ¹					10			
ΔI_{Q}	Change	$I_O = 5mA$	V _{IN} = 17.5V to 35V			3			3	· mA	
		$T_J = Over Ten$	np. Range ¹								
V _D	Dropout Voltage	I _O = 5A	$\Delta V_{OUT} = 300 \text{mV}$		2.5 3	م		2.5	3	V	
V D		$T_J = Over Ten$	np. Range ¹			J					
	Ripple Rejection	I _O = 1A	f = 120Hz	50	70		50	70		dB	
		$T_J = Over Ten$	np. Range ¹								
	Thermal Regulation	t _p = 20ms	$\Delta P = 50W$		0.002	0.01		0.002	0.02	%/W	
I _{PEAK}	Peak Output Current	V _{IN} = 20V	T _J = Over Temp. Range ¹		8	12		8	12	Α	
	Short Circuit Current	V _{IN} = 20V			3.5			3.5		A	
I _{SC}		V _{IN} = 35V			2			2			
e _n	Output Noise Voltage				90			90		μV	
Ь	Thermal Resistance	K Package			1.0	1.5		1.0	1.5	°C/W	
$R_{\theta JC}$	Junction to Case	V Package			1.0	1.5		1.0	1.5	C/ VV	

Notes

1) Applies over full temperature range:-

 $T_J = -55 \text{ to } +150^{\circ}\text{C for IP1R18A} - 15 / \text{IP1R18} - 15$

 $T_J = 0 \text{ to } +125^{\circ}\text{C for IP3R18A} -15 / \text{IP3R18} -15$

All other specifications apply at $T_J = 25$ °C unless otherwise stated.

2) Test conditions unless otherwise stated:-

 $V_{IN} = 20V$, $I_{OUT} = 2.5A$.

Although Power Dissipation is internally limited, these specifications apply for Power Dissipation up to 50W.

3) Load and Line regulation are electrically independent and are measured using pulse techniques at low duty cycle in order to maintain constant junction temperature. To determine the effects on the output voltage due to device heating, refer to thermal regulation specification.

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