

/ Descriptions

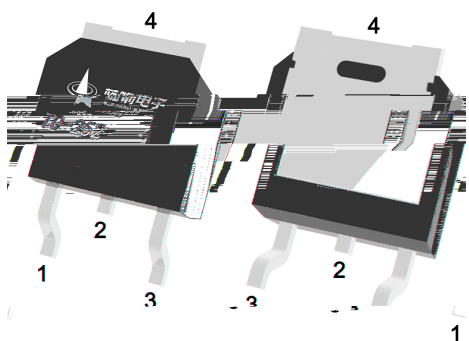
TO-252 Voltage Regulator in a TO-252 Plastic Package.

/ Features

1.0A,
3-Terminal regulators ,output current up to 1.0A, internal thermal overload protection and short-circuit limiting, HF Product.

Voltage Regulator.

/ Equivalent Circuit or Application Circuit



PIN1 IN PIN 2 4 GND PIN 3 OUT

/ Marking

See Marking Instructions.

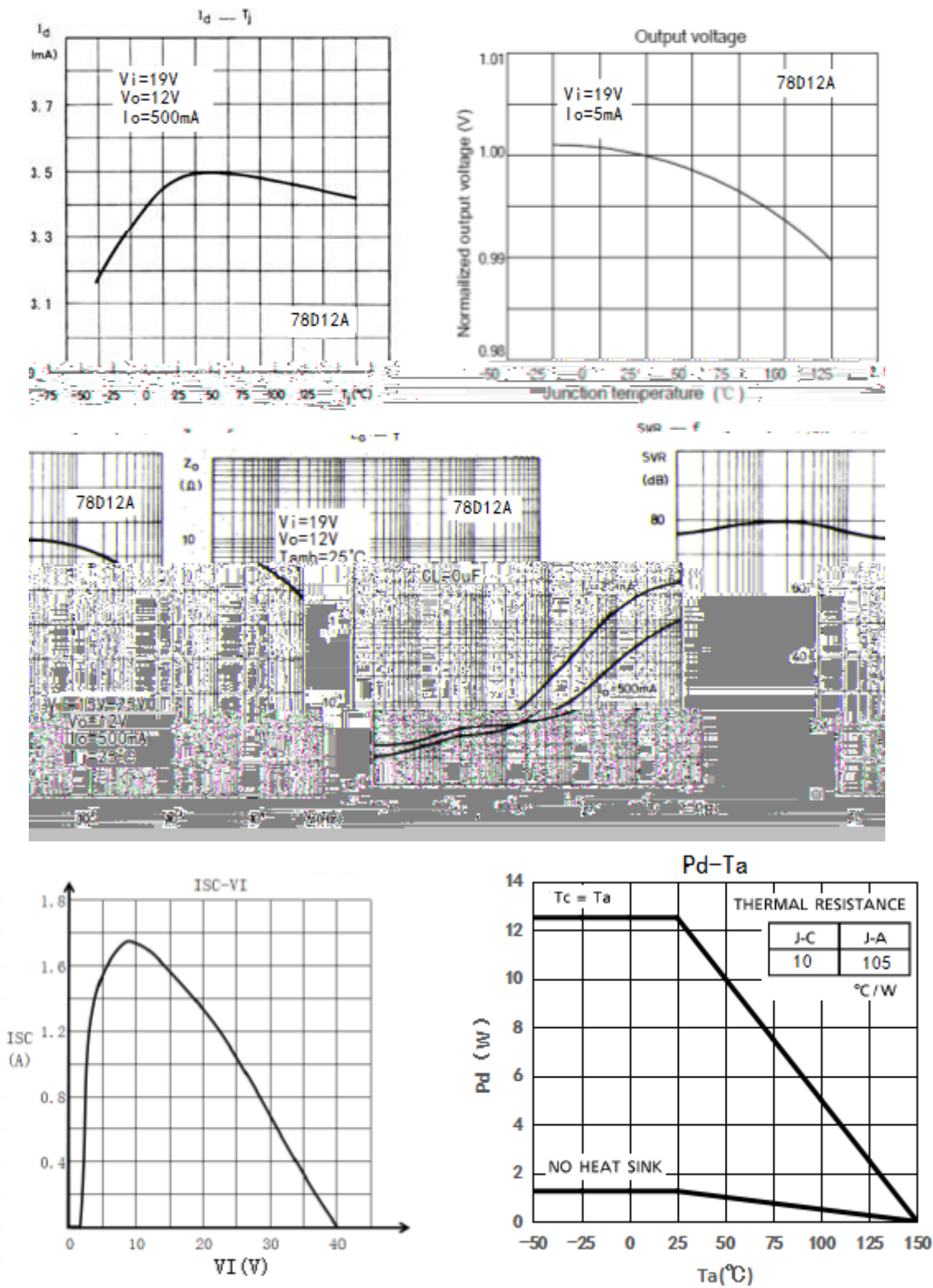
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Input voltage	V_i	7~35	V
Power Dissipation	P_D	Internally Limited	W
Thermal Resistance Junction-ambient	$R_{\theta JA}$	105	$^\circ\text{C}/\text{W}$
Thermal Resistance Junction-case	$R_{\theta JC}$	10	$^\circ\text{C}/\text{W}$
Operating Temperature Range	T_{OPR}	-40 ~ 125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-65 ~ 150	$^\circ\text{C}$

/ Electrical Characteristics($V_i=19\text{V}$, $I_o=500\text{mA}$, $T_j=-30 \sim 125^\circ\text{C}$,unless otherwise specified

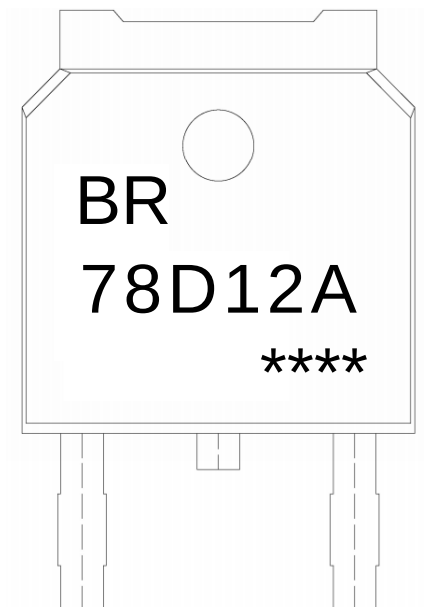
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_j=25^\circ\text{C}$	11.5	12.0	12.5	V
		$V_i=14.5\text{V}\sim 27\text{V}$ $I_o=5\text{mA}\sim 1.0\text{A}$ $P_D\leq 15\text{W}$	11.4	12.0	12.6	V
Load Regulation	V_{Load}	$T_j=25^\circ\text{C}$ $I_o=5\text{mA}\sim 1.0\text{A}$			240	mV
		$T_j=25^\circ\text{C}$ $I_o=250\text{mA}\sim 750\text{mA}$			120	mV
Line Regulation	V_{Line}	$T_j=25^\circ\text{C}$ $V_i=14.5\text{V}\sim 30\text{V}$			240	mV
		$T_j=25^\circ\text{C}$ $V_i=16\text{V}\sim 22\text{V}$			120	mV
Quiescent Current	I_q	$T_j=25^\circ\text{C}$			8.0	mA
Quiescent Current Change	I_q	$V_i=14.5\text{V}\sim 30\text{V}$			1.0	mA
		$I_o=5\text{mA}\sim 1.0\text{A}$			0.5	mA
Output Voltage Drift	V_o/ T	$I_o=5\text{mA}$ $T_j=0\sim 125^\circ\text{C}$		-1.0		mV/ $^\circ\text{C}$
Output Noise Voltage	eN	B=10Hz~100KHz $T_j=25^\circ\text{C}$		75		$\mu\text{V}/V_o$
Supply Voltage Rejection	SVR	$V_i=15\text{V}\sim 25\text{V}$ $f=120\text{Hz}$	55			dB
Dropout Voltage	V_d	$I_o=1.0\text{A}$ $T_j=25^\circ\text{C}$		2.0		V
Output Resistance	R_o	$f=1\text{KHz}$		18		$\text{m}\Omega$
Short Circuit Current	Isc	$V_i=35\text{V}$ $T_j=25^\circ\text{C}$		200		mA

/ Electrical Characteristic Curve



/ Package Dimensions

/ Marking Instructions



BR

78D12A

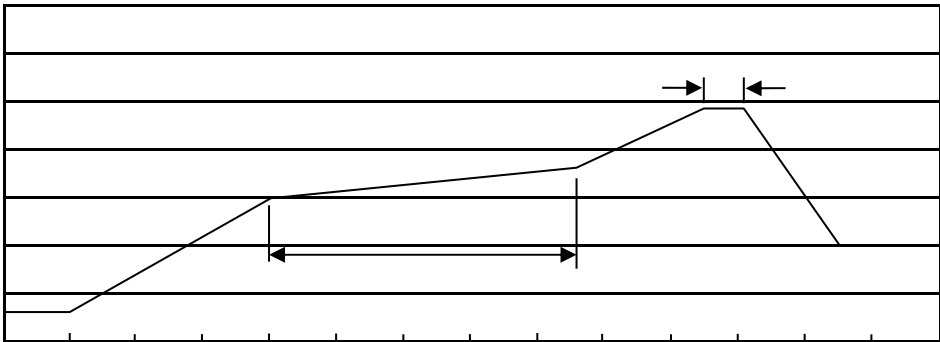
Note:

BR: Company Code

78D12A: Product Type

****: Lot No. Code, code change with Lot No

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Note:

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245±5

5±0.5sec;

2.Peak Temp.:245±5 , Duration:5±0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5℃ Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
TO-252	2,500	2	5,000	6	30,000	13 ×16	360×360×50	380×335×366

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices

PCB