

/ Descriptions

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

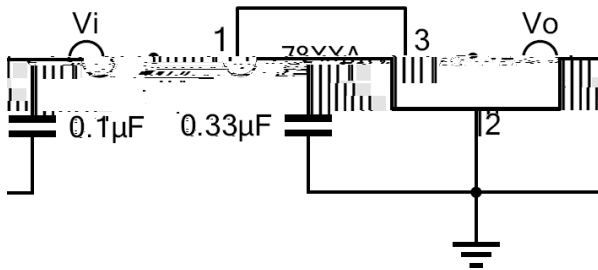
/ Features

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

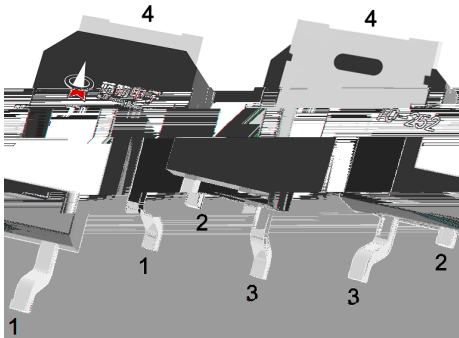
/ Applications

Voltage Regulator.

/ Equivalent Circuit or Application Circuit



/ Pinning



PIN1 IN PIN 2 4 GND PIN 3 OUT

/ Marking

See Marking Instructions.

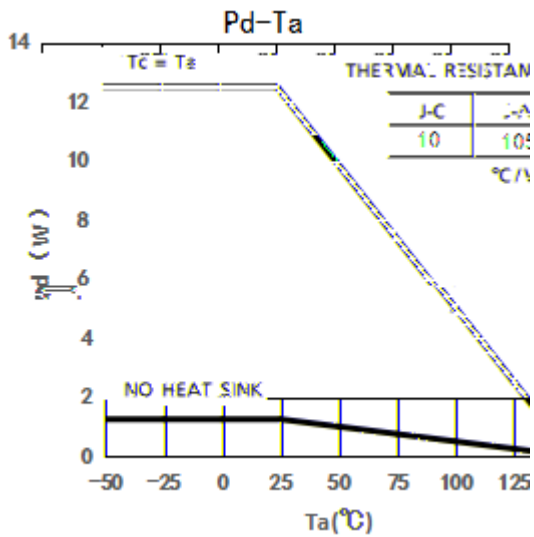
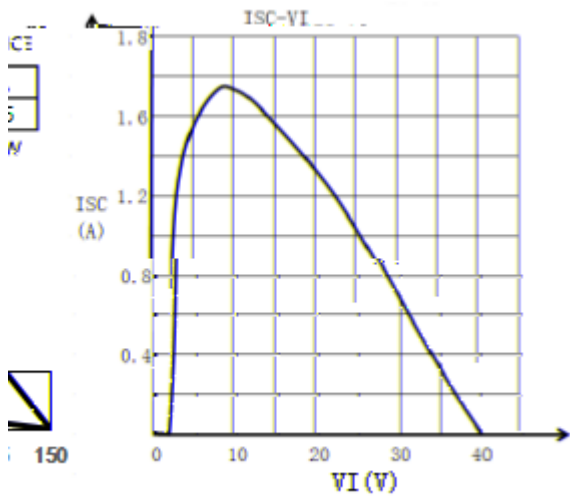
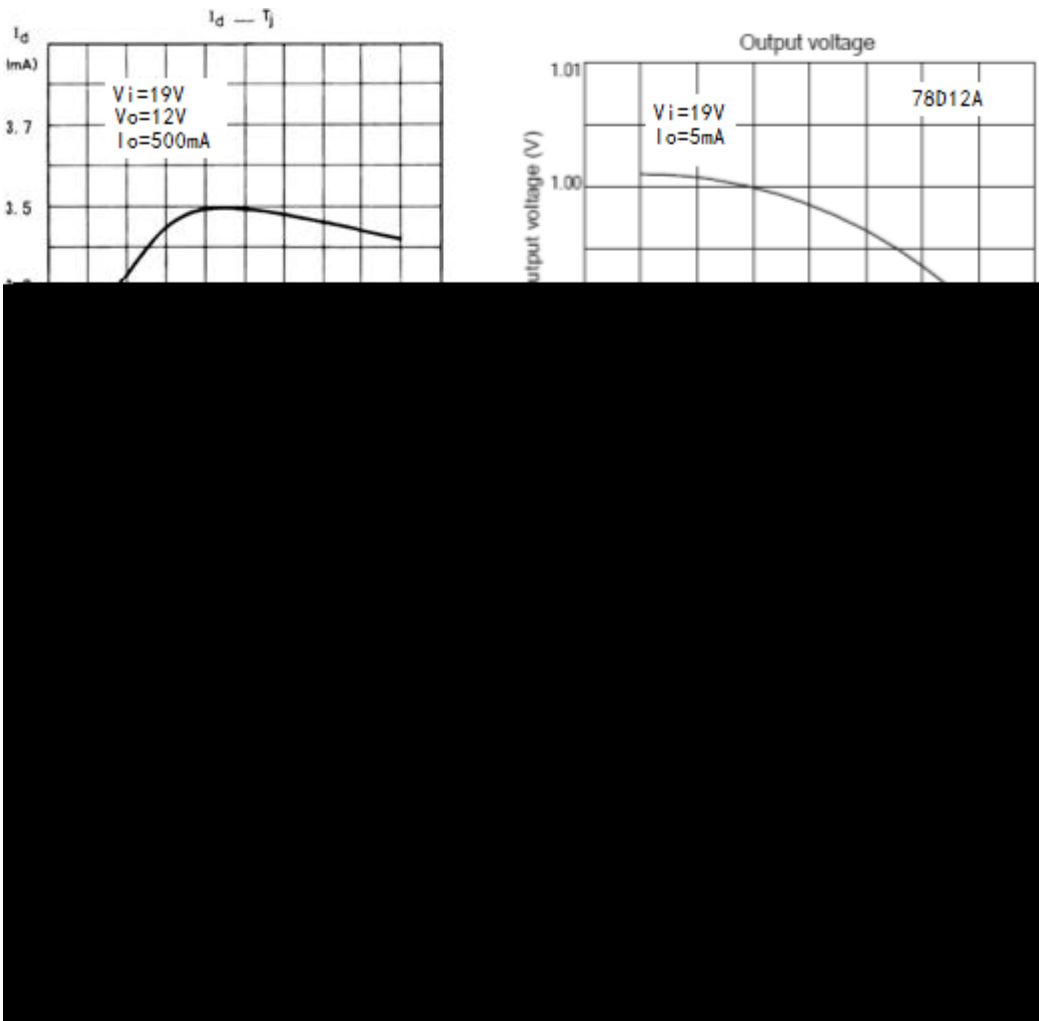
/ Absolute Maximum Ratings(Ta=25)

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	/W
Thermal Resistance Junction-case	$R_{\theta JC}$	10	/W
Operating Temperature Range	T_{OPR}	-40 125	
Storage temperature range	T_{stg}	-65 150	

/ Electrical Characteristics($V_i=19V, I_o=500mA, T_j=-30 \sim 125$,unless otherwise specified

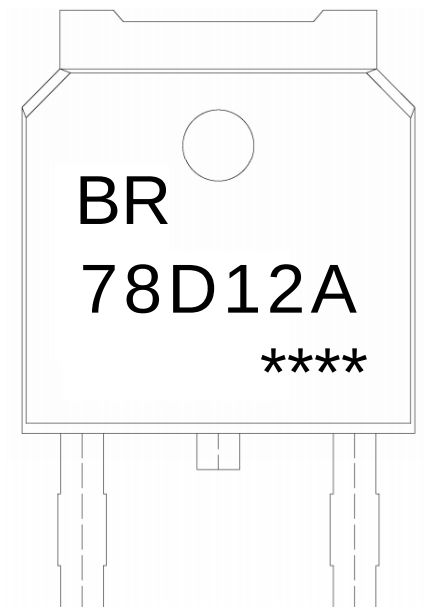
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_j=25$	11.5	12.0	12.5	V
		$V_i=14.5V \sim 27V$ $I_o=5mA \sim 1.0A$ $P_D \leq 15W$	11.4	12.0	12.6	V
Load Regulation	V_{Load}	$T_j=25$ $I_o=5mA \sim 1.0A$			240	mV
		$T_j=25$ $I_o=250mA \sim 750mA$			120	mV
Line Regulation	V_{Line}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

/ Electrical Characteristic Curve



/ Package Dimensions

/ Marking Instructions



BR

78D12A

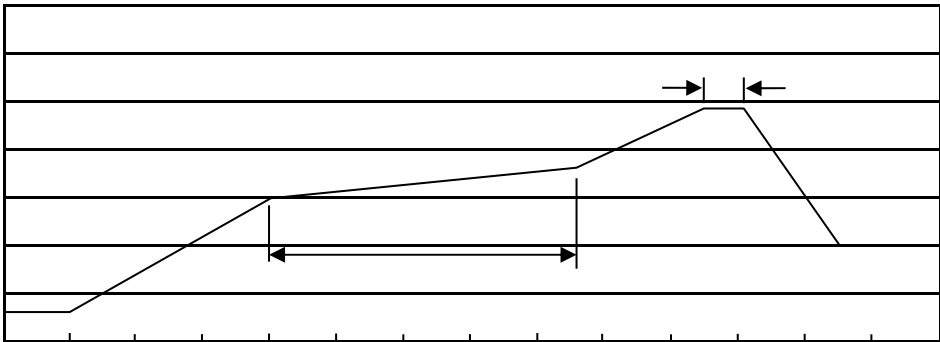
Note:

BR: Company Code

78D12A: Product Type

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

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1

150 180

60 90sec;
- 2

245±5

5±0.5sec;
- 3

2 10 /sec.
- 1.Preheating:150~180

， Time:60~90sec.
- 2.Peak Temp.:245±5

， Duration:5±0.5sec.
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)		
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)		
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices

PCB