

/ Descriptions

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

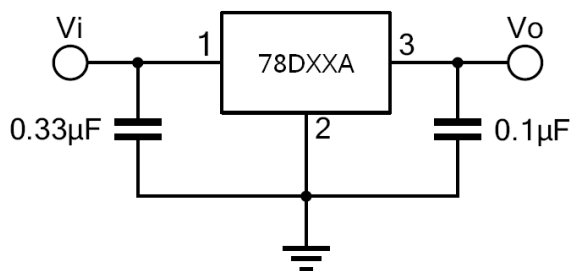
/ Features

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

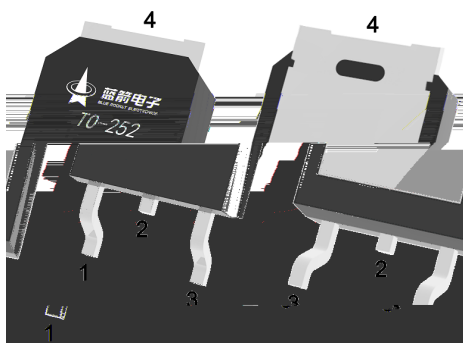
/ Applications

Voltage Regulator.

/ Equivalent Circuit or Application Circuit



/ Pinning



PIN1 IN PIN 2 4 GND PIN 3 OUT

/ Marking

See Marking Instructions.

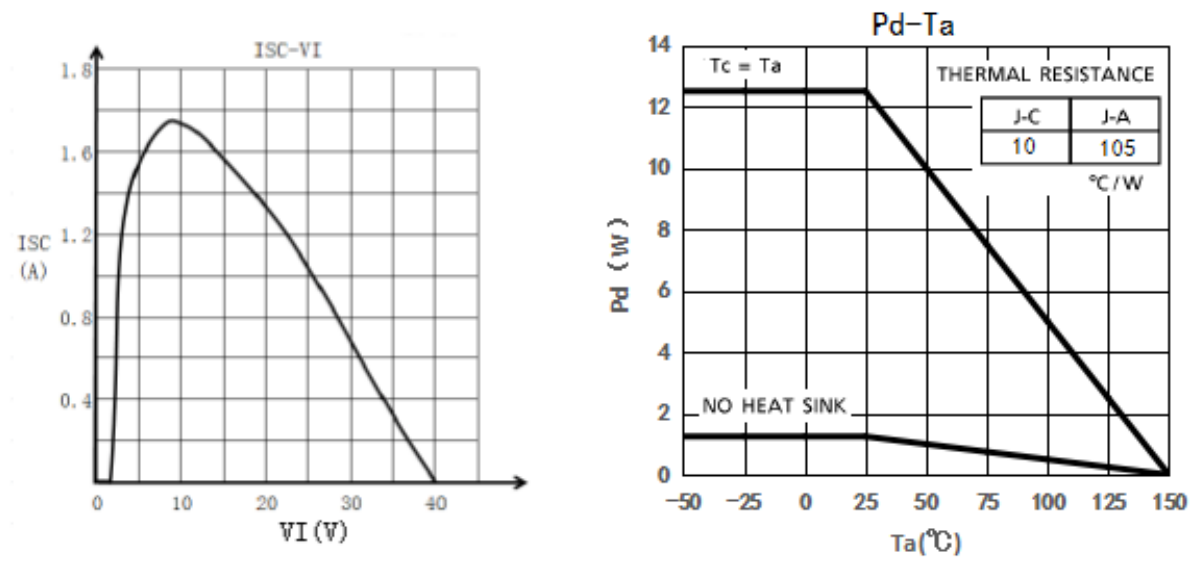
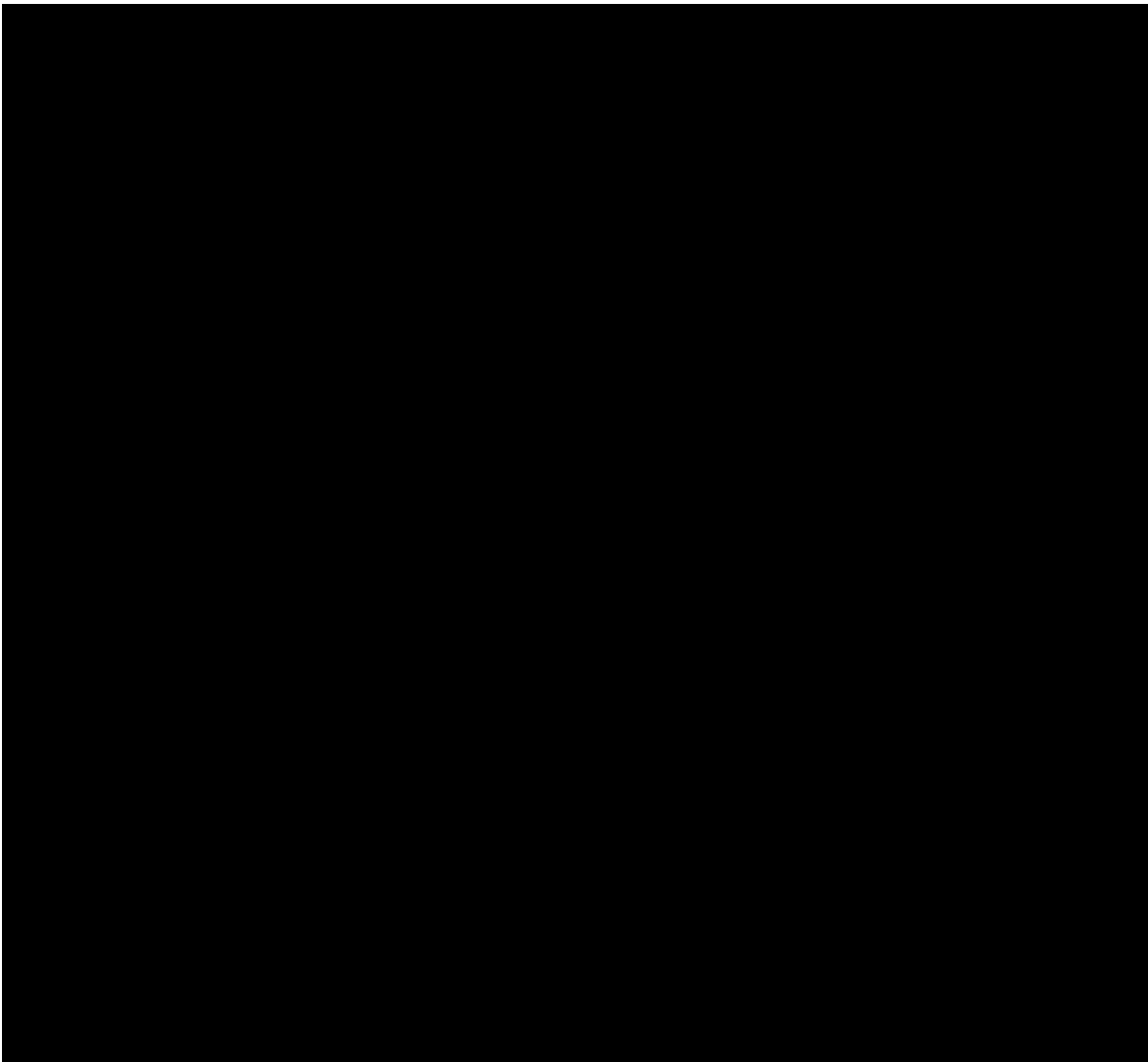
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Input voltage	V_i	17.5~35	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	
Storage temperature range	T_{stg}	-65 ~ 150	

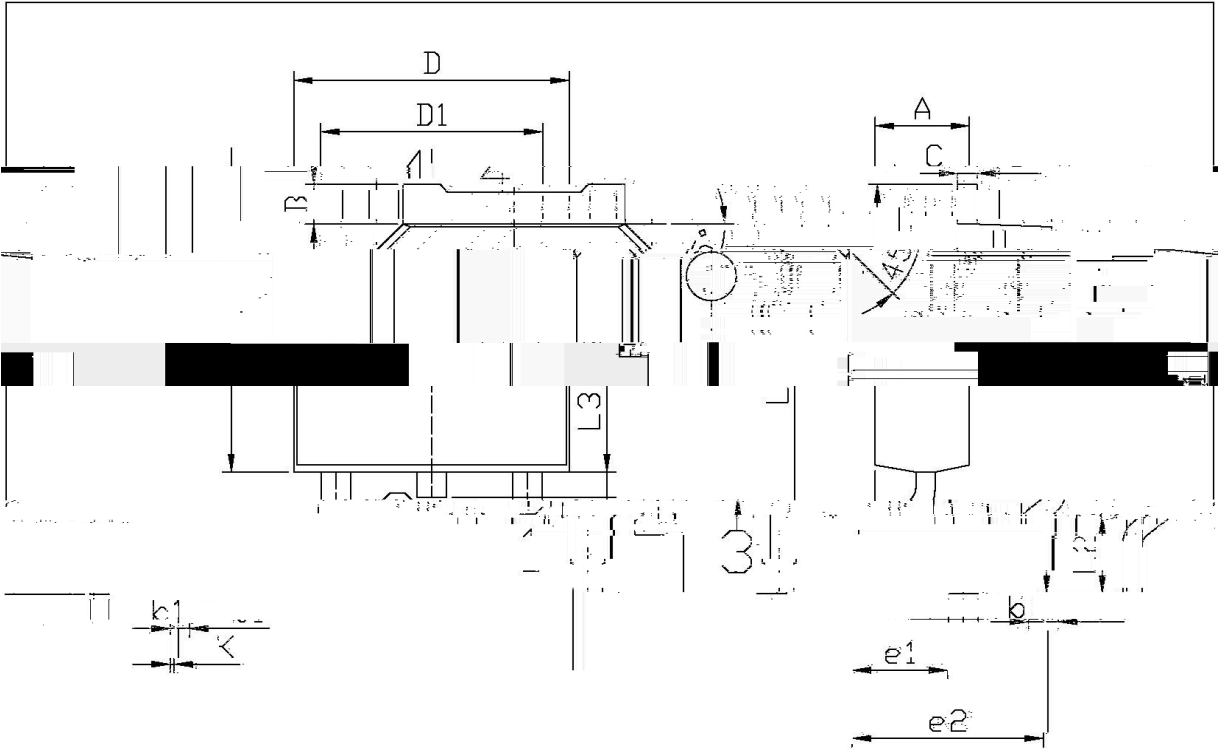
/ Electrical Characteristics($V_i=23\text{V}$, $I_o=500\text{mA}$, $T_j=-30^\circ\text{C} \sim 125^\circ\text{C}$,unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_j=25^\circ\text{C}$	14.4	15	15.6	V
		$V_i=17.5\text{V}\sim 30\text{V}$ $I_o=5\text{mA}\sim 1.0\text{A}$ $P_D\leq 15\text{W}$	14.25	15	15.75	V
Load Regulation	V_{Load}	$T_j=25^\circ\text{C}$ $I_o=5\text{mA}\sim 1.0\text{A}$			250	mV
		$T_j=25^\circ\text{C}$ $I_o=250\text{mA}\sim 750\text{mA}$			125	mV
Line Regulation	V_{Line}	$T_j=25^\circ\text{C}$ $V_i=17.5\text{V}\sim 30\text{V}$			250	mV
		$T_j=25^\circ\text{C}$ $V_i=20\text{V}\sim 26\text{V}$			125	mV
Quiescent Current	I_q	$T_j=25^\circ\text{C}$			8.0	mA
Quiescent Current Change	I_q	$V_i=17.5\text{V}\sim 30\text{V}$			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 $T_j=25^\circ\text{C}$		10		$\mu\text{V}/V_o$
Supply Voltage Rejection	SVR	$V_i=18.5\text{V}\sim 28.5\text{V}$ $f=120\text{Hz}$	54			dB
Dropout Voltage	V_d	$I_o=1.0\text{A}$ $T_j=25^\circ\text{C}$		2.0		V
Output Resistance	R_o	$f=1\text{KHz}$		19		$\text{m}\Omega$
Short Circuit Current	Isc	$V_i=35\text{V}$ $T_j=25^\circ\text{C}$		200		mA

/ Electrical Characteristic Curve

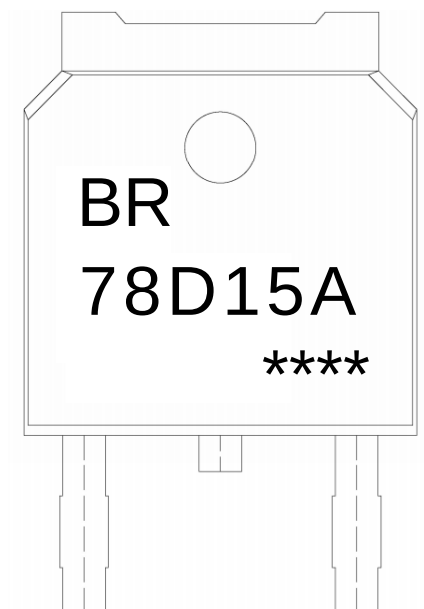


/ Package Dimensions



单位: mm					
Symbol		Dimensions In Millimeters		Symbol	
		Min	Max		
E	5.95	6.25		A	2.20
e1	2.24	2.34		B	0.95
e2	0.35	0.45		C	0.78
K	0.45	0.55		D	10.35
L3	0.45	0.55		D1	5.10
L4	0.45	0.55			

/ Marking Instructions



BR

78D15A

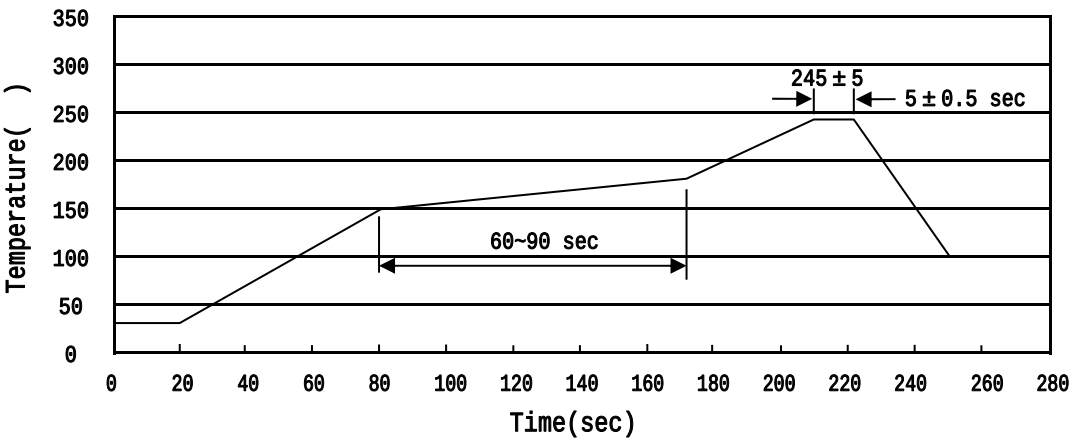
Note:

BR: Company Code

78D15A: Product Type

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

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



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