

/ Descriptions

TO-252

Voltage Regulator in a TO-252 Plastic Package.

/ Features

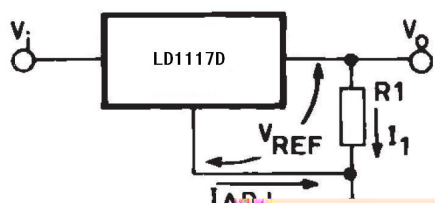
, 800mA, DHF0T433

High efficiency, Low dropout voltage(1V $T_{YP.}$)output current up to 800mA, internal current and thermal limit, Qualified to AEC-Q100 Standards for High Reliability, HF Product.

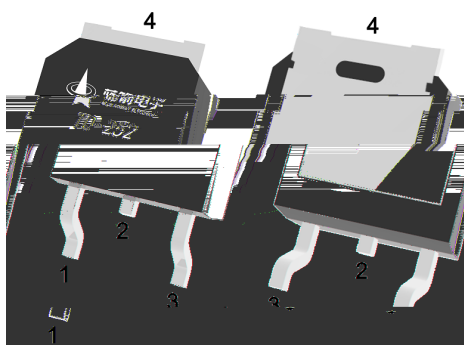
/ Applications

Voltage Regulator, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit or Application Circuit



/ Pinning



PIN1 GND/ADJ

PIN 2,4 OUT

PIN 3 IN

/ Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Input voltage	V_I	15	V
Thermal Resistance Junction-case	$R_{\theta JC}$	8	/W
Storage temperature range	T_{stg}	-40 150	

/ Electrical Characteristics(Ta=25)

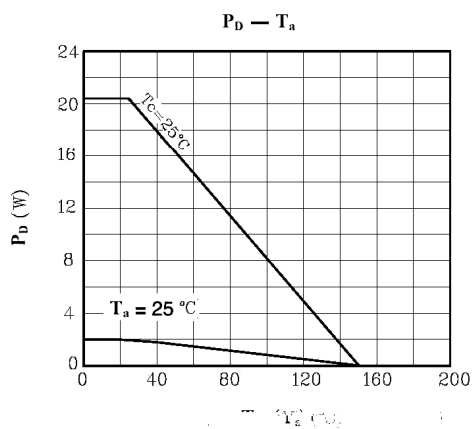
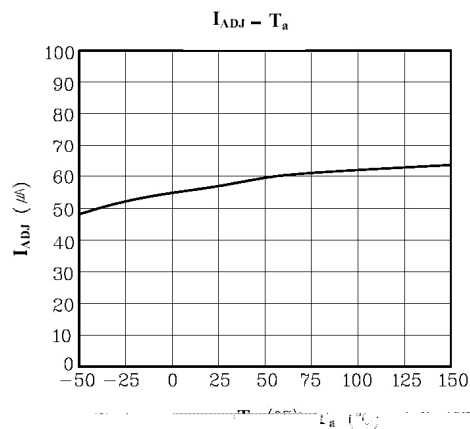
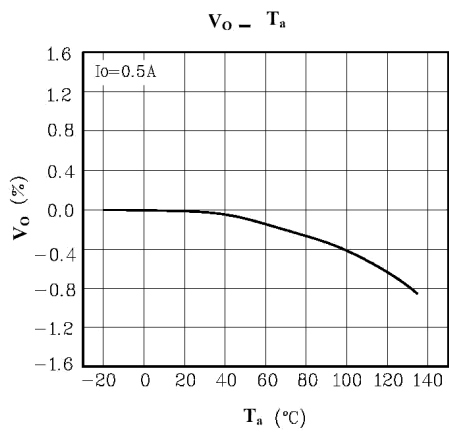
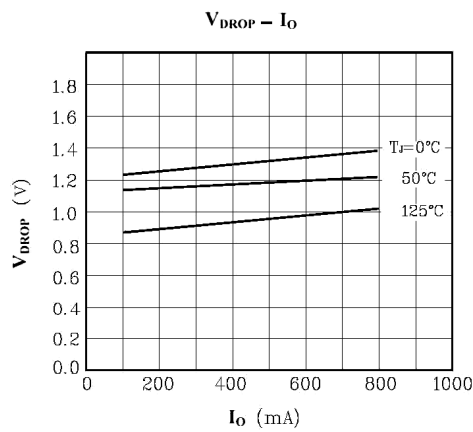
Parameter	Symbol	Type	Test Conditions	Min	Typ	Max	Unit
Reference Voltage	V_{ref}	BRLD1117DQ- Adj	$V_{in}-V_o=2V \quad T_j=25$ $I_o=10mA$	1.225	1.25	1.275	V
			$10mA \leq I_o \leq 800mA$ $1.4V \leq (V_{in}-V_o) \leq 10V$	1.225	1.25	1.275	
Output Voltage	V_o	BRLD1117DQ-1.2	$V_{in}=3.2V \quad T_j=25$ $I_o=10mA$	1.176	1.2	1.224	V
			$10mA \leq I_o \leq 800mA$, $3V \leq V_{in} \leq 8V$	1.176	1.2	1.224	
		BRLD1117DQ-1.8	$V_{in}=3.8V \quad T_j=25$ $I_o=10mA$	1.764	1.8	1.836	V
			$0 \leq I_o \leq 800mA$, $3.3V \leq V_{in} \leq 8V$	1.764	1.8	1.836	
		BRLD1117DQ-2.5	$V_{in}=4.5V \quad T_j=25$ $I_o=10mA$	2.45	2.5	2.55	V
			$0 \leq I_o \leq 800mA$, $3.9V \leq V_{in} \leq 10V$	2.45	2.5	2.55	
		BRLD1117DQ-3.3	$V_{in}=5.3V \quad T_j=25$ $I_o=10mA$	3.234	3.3	3.366	V
			$0 \leq I_o \leq 800mA$, $4.75V \leq V_{in} \leq 10V$	3.234	3.3	3.366	
		BRLD1117DQ-5.0	$V_{in}=7V \quad T_j=25$ $I_o=10mA$	4.9	5	5.1	V
			$0 \leq I_o \leq 800mA$, $6.5V \leq V_{in} \leq 15V$	4.9	5	5.1	
Load Regulation	V_o	BRLD1117DQ-Adj	$V_{in}-V_o=3V$ $10mA \leq I_o \leq 800mA$			30	mV
		BRLD1117DQ-1.2	$V_{in}=3V$ $10mA \leq I_o \leq 800mA$			30	mV
		BRLD1117DQ-1.8	$V_{in}=3.3V$ $0mA \leq I_o \leq 800mA$			30	mV
		BRLD1117DQ-2.5	$V_{in}=3.9V$ $0mA \leq I_o \leq 800mA$			30	mV
		BRLD1117DQ-3.3	$V_{in}=4.75V$ $0mA \leq I_o \leq 800mA$			30	mV
		BRLD1117DQ-5.0	$V_{in}=6.5V$ $0mA \leq I_o \leq 800mA$			30	mV

/ Electrical Characteristics(Ta=25)

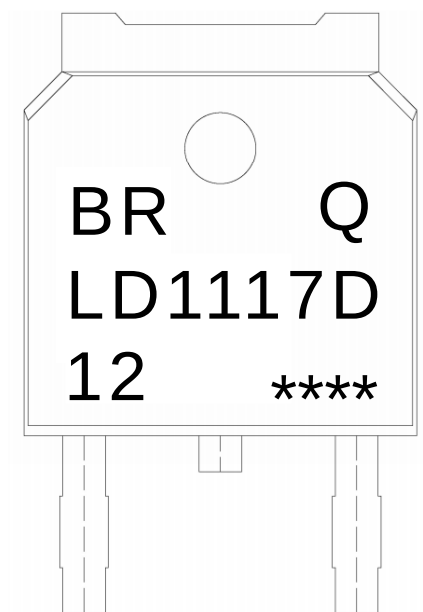
Parameter	Symbol	Type	Test Conditions	Min	Typ	Max	Unit
Line Regulation	Vo	BRLD1117DQ-Adj	Io=10mA 1.5V≤(Vin-Vo)≤13.75V			23	mV
		BRLD1117DQ-1.2	3V≤Vin≤8.0V Io=0mA			18	mV
		BRLD1117DQ-1.8	3.3V≤Vin≤8.0V Io=0mA			31	mV
		BRLD1117DQ-2.5	3.9V≤Vin≤10V Io=0mA			40	mV
		BRLD1117DQ-3.3	4.75V≤Vin≤15V Io=0mA			48	mV
		BRLD1117DQ-5.0	6.5V≤Vin≤15V Io=0mA			55	mV
Operating Input Voltage	Vin	BRLD1117DQ-Adj				15	V
		BRLD1117DQ-1.2	Io=100mA			10	
		BRLD1117DQ-1.8				10	
		BRLD1117DQ-2.5				15	
		BRLD1117DQ-3.3				15	
		BRLD1117DQ-5.0				15	
Adjustment Pin Current	Iadj	BRLD1117DQ-Adj	Vin≤15V		60	120	uA
Adjustment Pin Current Change	Iadj		1.4V≤Vin-Vo≤10V, 0mA≤Io≤800mA		1	5	
Quiescent Current	Id	BRLD1117DQ-1.2	Vin≤8V		5	10	mA
		BRLD1117DQ-1.8	Vin≤8V				
		BRLD1117DQ-2.5	Vin≤10V				
		BRLD1117DQ-3.3	Vin≤15V				
		BRLD1117DQ-5.0					
Output Current	Io	BRLD1117DQ-Adj	Vin-Vo=5V Tj=25	600	800	1000	mA
		BRLD1117DQ-1.2					
		BRLD1117DQ-1.8					
		BRLD1117DQ-2.5					
		BRLD1117DQ-3.3					
		BRLD1117DQ-5.0					
Output Noise	eN	BRLD1117DQ-Adj	10Hz≤B≤10KHz Tj=25		0.003		%
		BRLD1117DQ-1.2		100	uV		
		BRLD1117DQ-1.8					
		BRLD1117DQ-2.5					
		BRLD1117DQ-3.3					
		BRLD1117DQ-5.0					

Parameter	Symbol	Type	Test Conditions	Min	Typ	Max	Unit
Supply Voltage Rejection	SVR	BRLD1117DQ-Adj	Io=40mA f=120Hz, Tj=25 Vin-Vo=3V, Vripple=1Vpp	60	75		dB
		BRLD1117DQ-1.2					
		BRLD1117DQ-1.8					

/ Electrical Characteristic Curve



/ Marking Instructions



EU

Q

LG444 : G

45-

415V

Note:

BR: Company Code

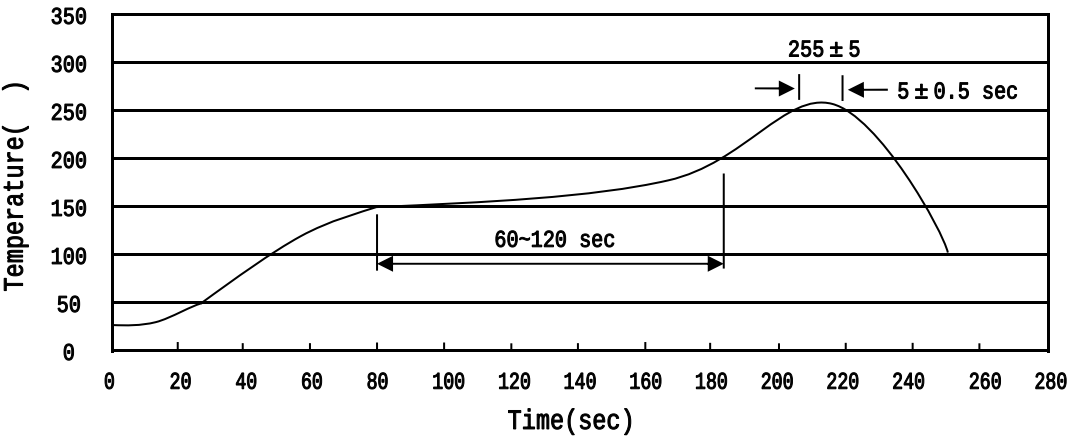
Q: Automobile halogen-free product Code

LD1117D: Product Type Code

12: On Behalf 1.2V

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

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Note:

- 1

150 200

60 120sec;

1.Preheating:150~200 , Time:60~120sec.
- 2

255±5

5±0.5sec;

2.Peak Temp.:255±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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	只 卷盘	卷盘 盒	只 盒	盒 箱	只 箱		盒	箱
TO-252	2,500	2	5,000	6	30,000	13 ×16	360×360×50	380×335×366

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	只 套管	套管 盒	只 盒	盒 箱	只 箱	套管	盒	箱
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices