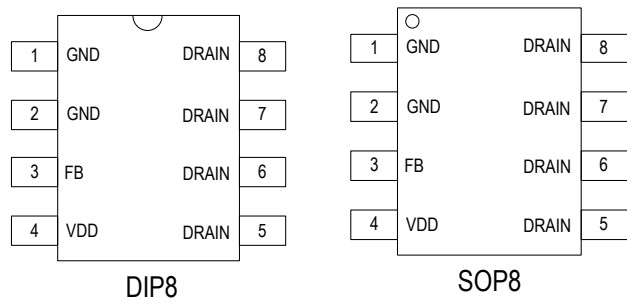


- ◆ 85Vac~265Vac
- ◆ 120mW@220Vac
- ◆
- ◆
- ◆ 9V~39V VDD
- ◆ PWM
- ◆
- ◆ VIPer12
- ◆ DIP8 SOP8
- ◆
- ◆ BUCK
- ◆
- ◆
- ◆
- ◆ DVB

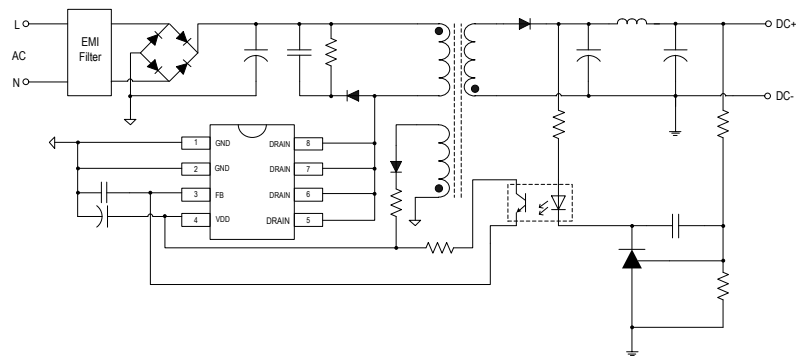
SM7012 PWM

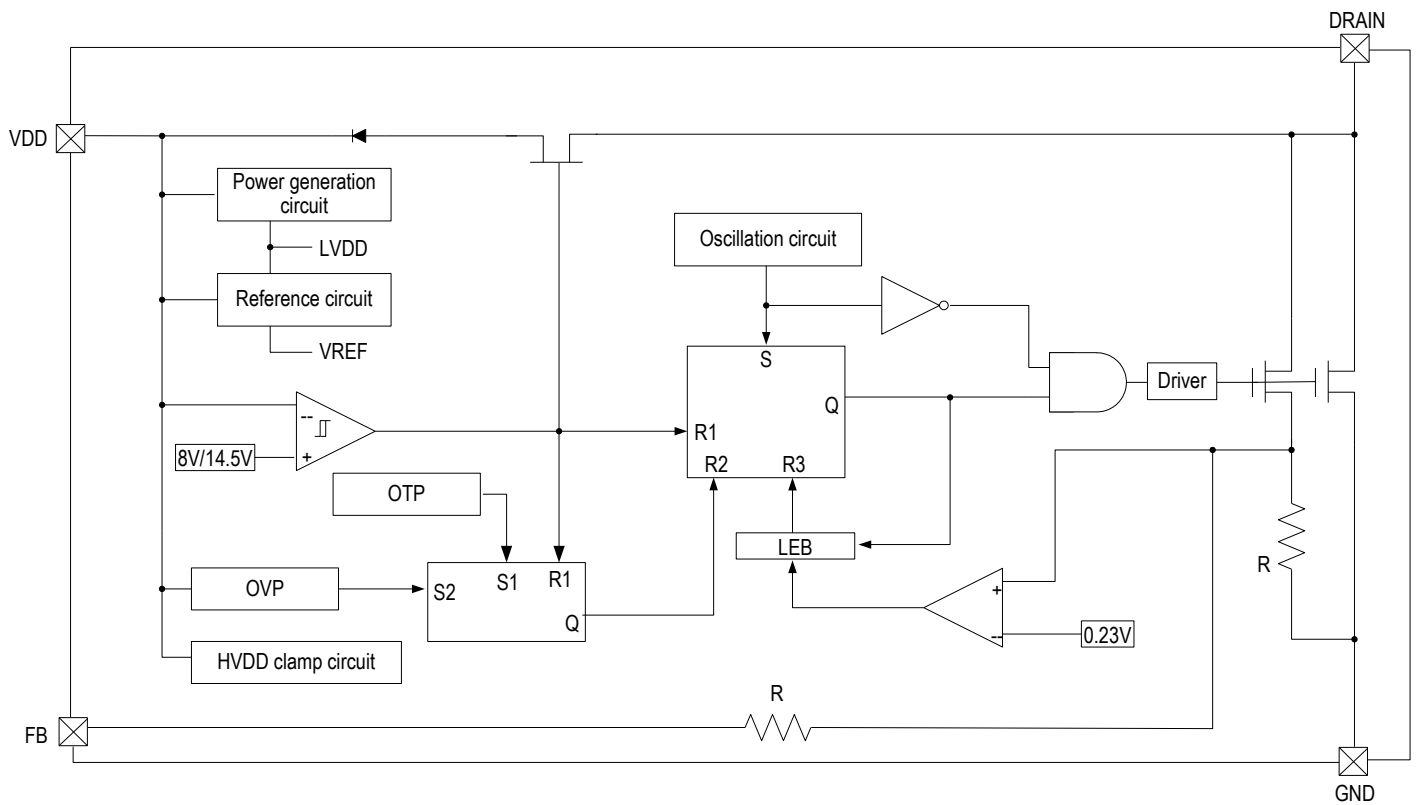
VDD



	85Vac~265Vac	180Vac~265Vac
SOP8	5W	8W
DIP8	8W	13W

10W





1,2	GND	MOS SOURCE
3	FB	
4	VDD	
5 6 7 8	DRAIN	MOS DRAIN

SM7012	DIP8	20000 /	/	/
	SOP8	100000 /	4000 /	13

$T_A=25^{\circ}\text{C}$ 

$V_{DS}$	DRAIN	-0.3~650	V
VDD	VDD	-0.3~41	V
$I_{VDD}$		10	mA
$I_{FB}$		3	mA
$R_{\theta JA}$	PN	DIP8	80
		SOP8	130
$P_D$	3	DIP8	1
		SOP8	0.5
$T_J$		-40~150	$^{\circ}\text{C}$
$T_{STG}$		-55~150	$^{\circ}\text{C}$
$V_{ESD}$	HBM	>2	KV

1

2  $R_{\theta JA}$   $T_A=25^{\circ}\text{C}$ 

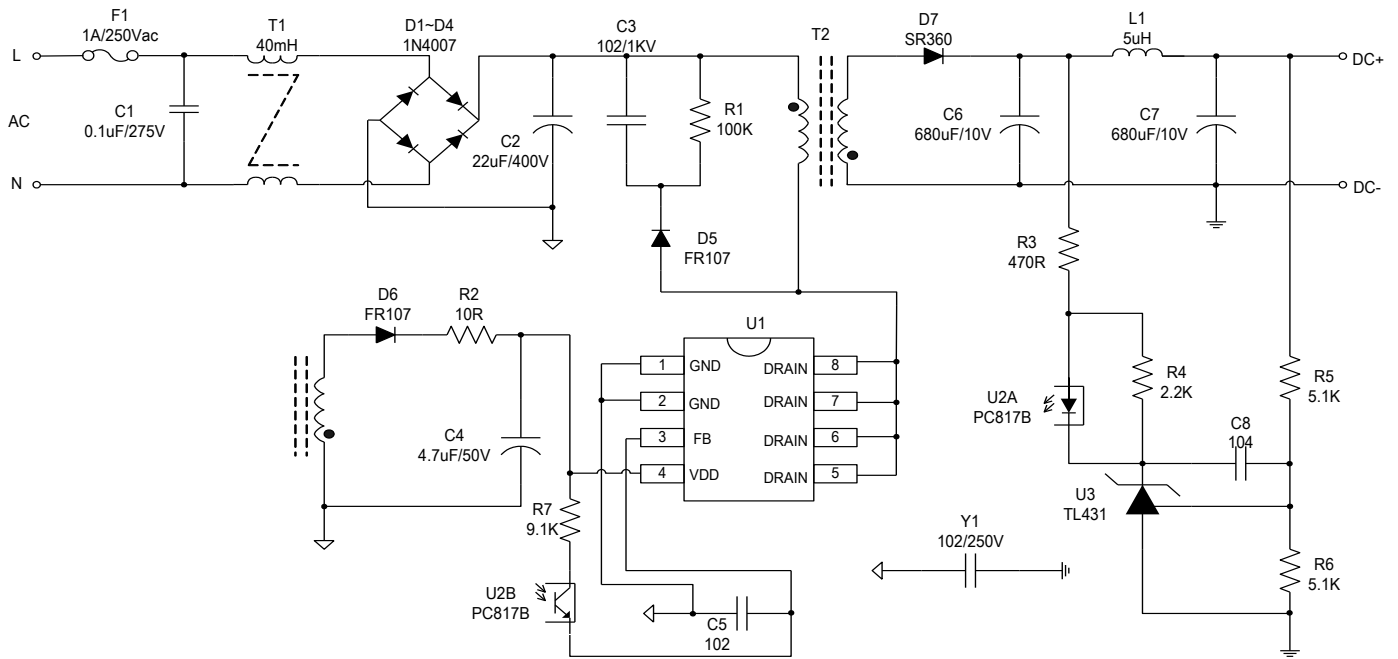
JEDEC JESD51

3

 $T_{JMAX}$   $R_{\theta JA}$  $T_A$  $P_D = (T_{JMAX} - T_A) / R_{\theta JA}$  $T_A=25^{\circ}\text{C}$ 

$BV_{DS}$		$V_{FB}=2V$ $V_{VDD}=18V$	650V	-	-	V
$I_{DSS}$	DRAIN	-	-	-	0.1	mA
$R_{DS(on)}$		$V_{FB}=2V, V_{VDD}=18V,$ $I_D=0.032A$	-	19	-	$\Omega$
$V_{DDON}$	VDD	$V_{DRAIN}=30V$	13	14.5	16	V
$V_{DDOFF}$	VDD	$V_{DRAIN}=30V$	7	8	9	V
$V_{DDHYS}$	VDD	-	-	6.5	-	V
$V_{DDOVP}$	VDD	-	37.5	39	40.5	V
$I_{DD1}$	VDD	$I_{FB}=2.0mA$	-	0.4	-	mA
$I_{DD2}$	VDD	$I_{FB}=0.5mA; I_D=50mA$	-	1.0	-	mA

	T <sub>HYS</sub>		-	-	30	-	°C
4							
5							
6		145°C					



◆

D1-D4 C2 D5 R1 C3 RCD T2

SM7012 MOS

U3 U2 R5 R6 R3 R4 C8 R5 R6 Vout

$$V_{OUT} = \frac{R5 + R6}{R6} \times 2.5V$$

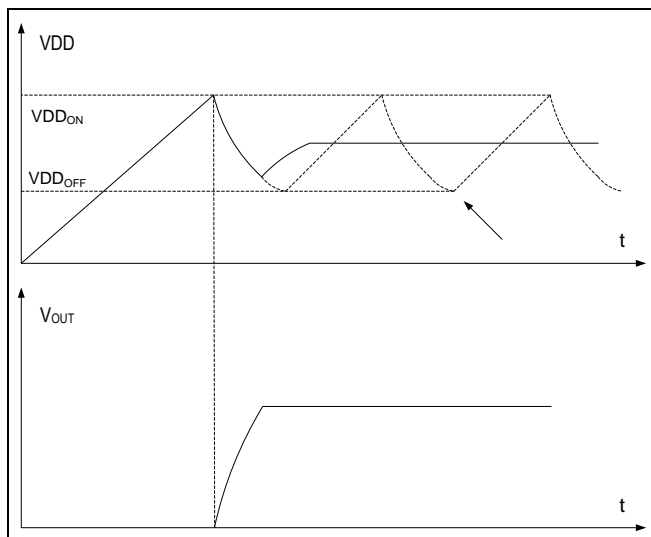
R3 R4 U2 PC817B C8

◆ VDD

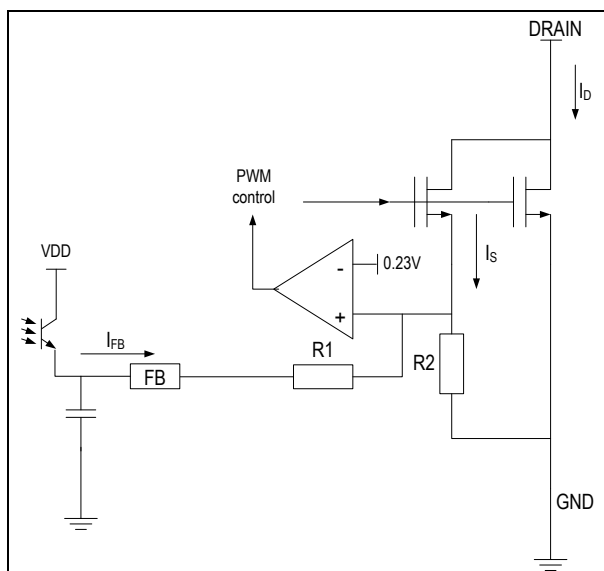
SM7012 9V-39V

C4 C4 C4 14.5V C2 T2 MOS VDD

C4 C4 8V PWM MOS PWM



◆ FB



MOS  $I_D = G_{ID} \cdot I_S$

$$(I_S + I_{FB}) \cdot R2 = 0.23V$$

$$I_S = \frac{0.23V}{R2} - I_{FB}$$

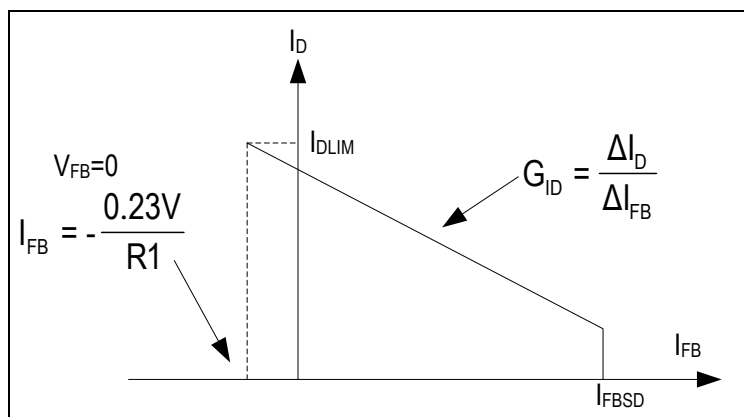
$$I_D = G_{ID} \cdot \left( \frac{0.23V}{R2} - I_{FB} \right)$$

FB  $I_{FB} = -\frac{0.23V}{R1}$

IDLIM

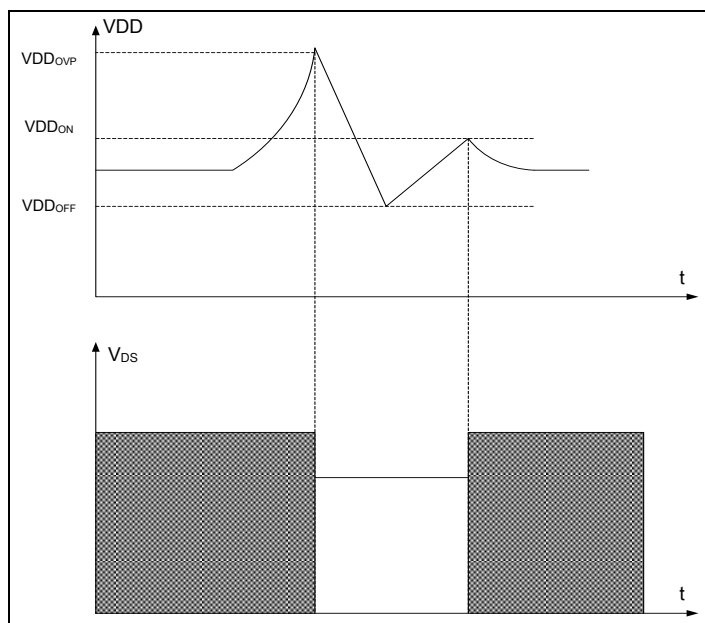
$$I_{DLIM} = G_{ID} \cdot 0.23V \cdot \left( \frac{1}{R1} + \frac{1}{R2} \right)$$

FB 0V MOS VDD IDLIM FB



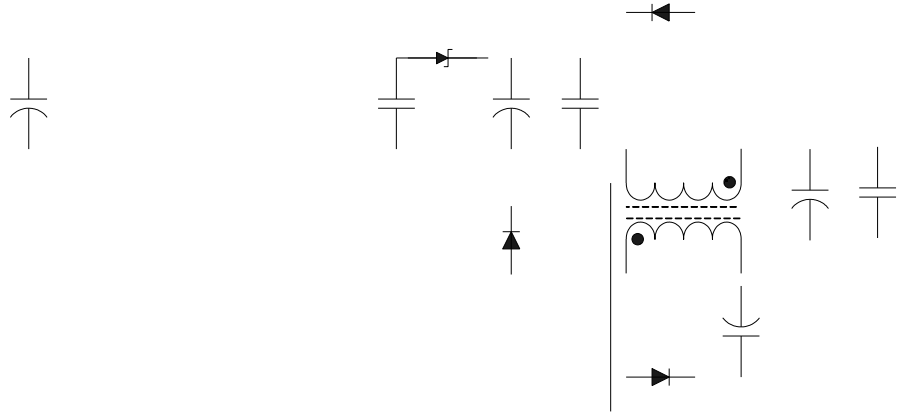
IFB ID IFB ID IFB IFBSD

PWM ID 85mA



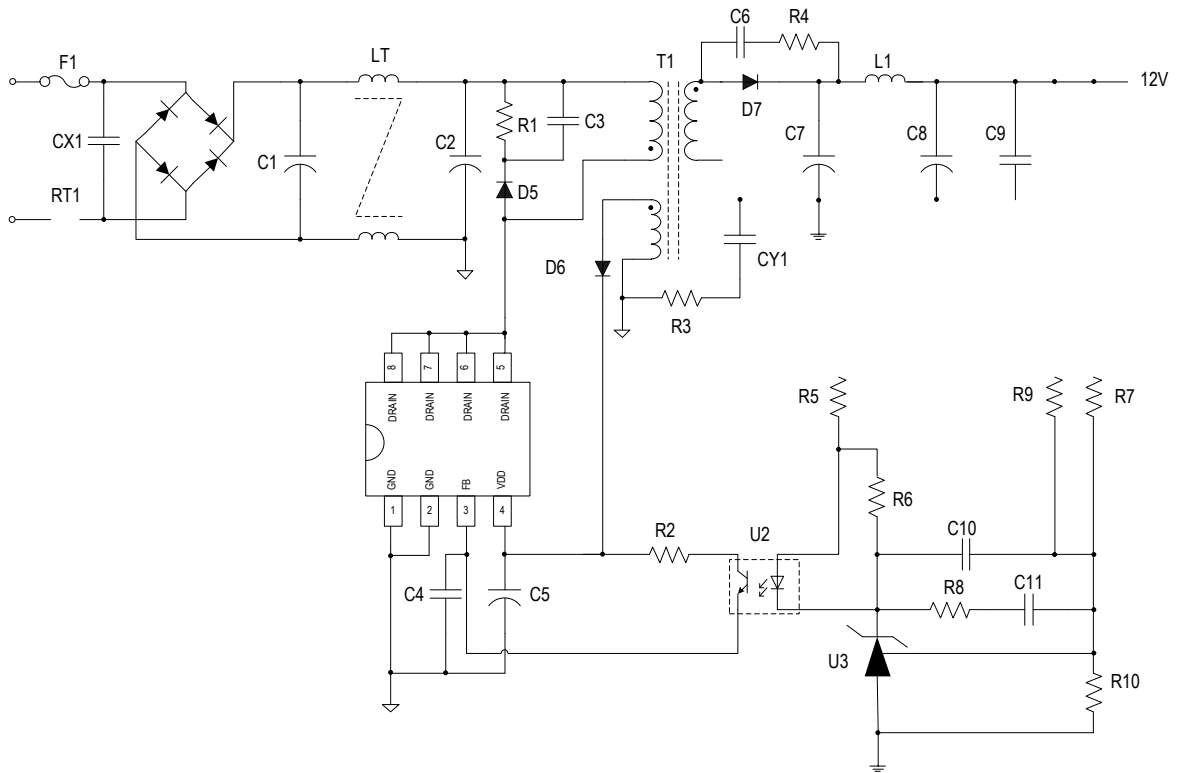
VDD VDD<sub>OVP</sub>

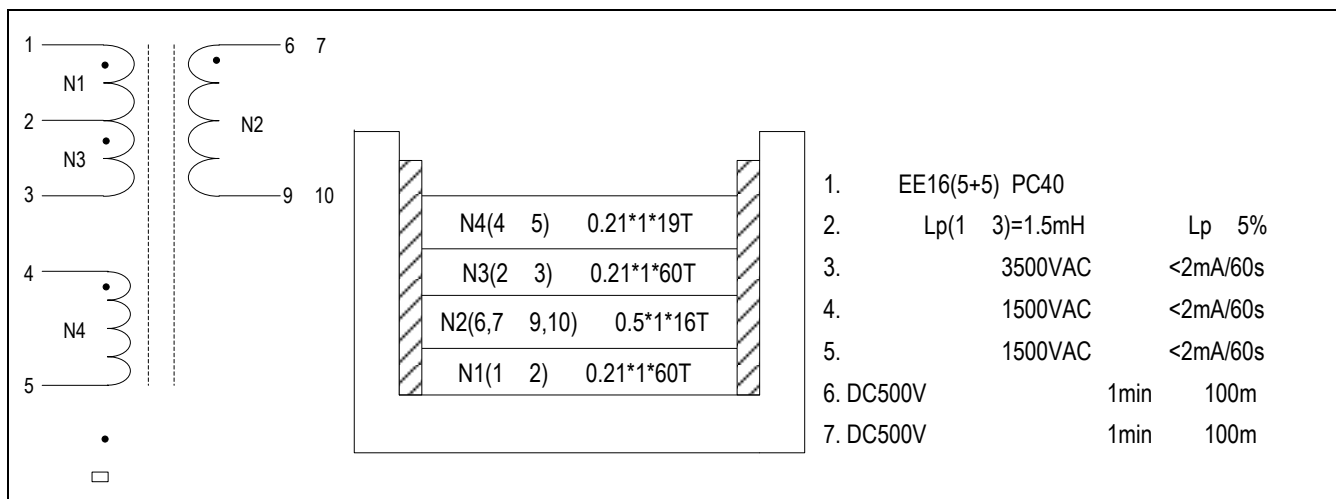
## ◆ BUCK -

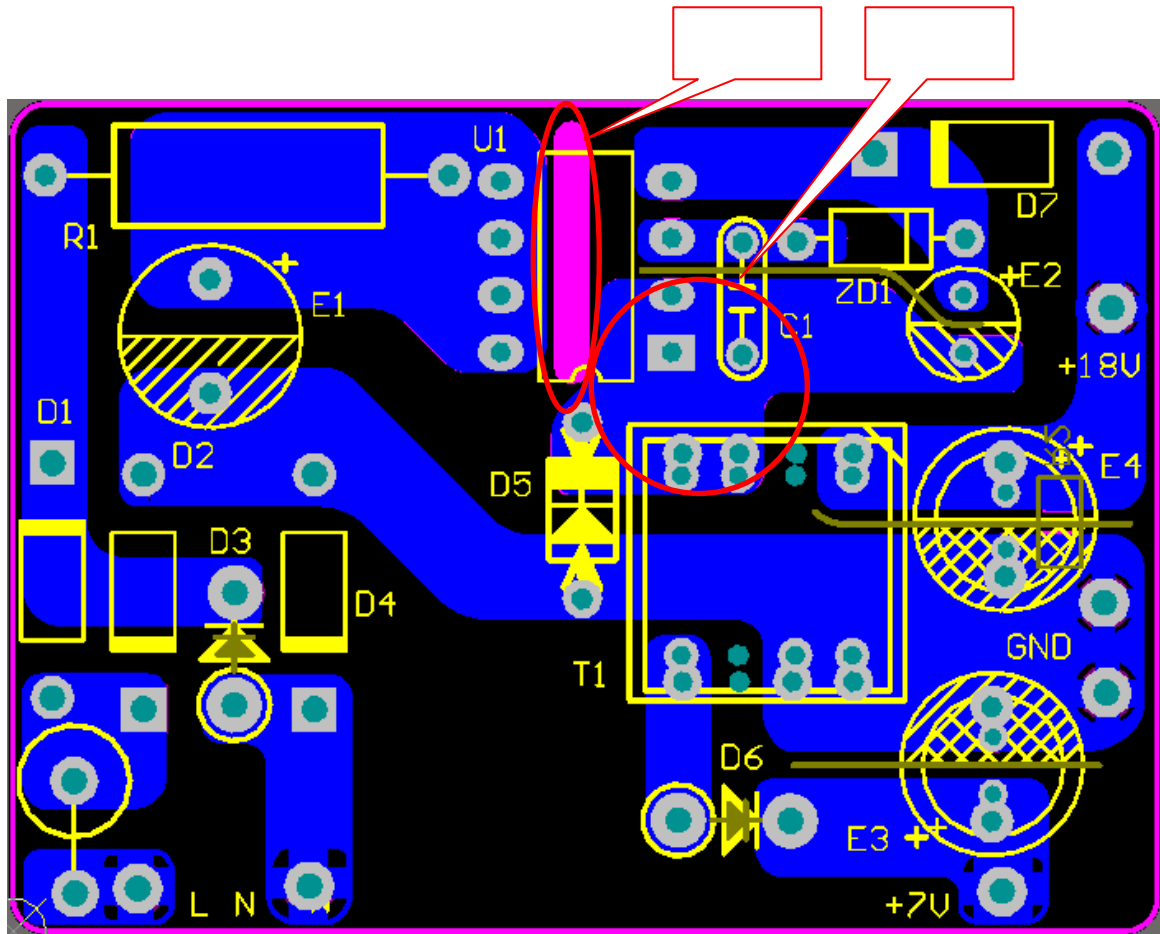




◆ 12V/500mA







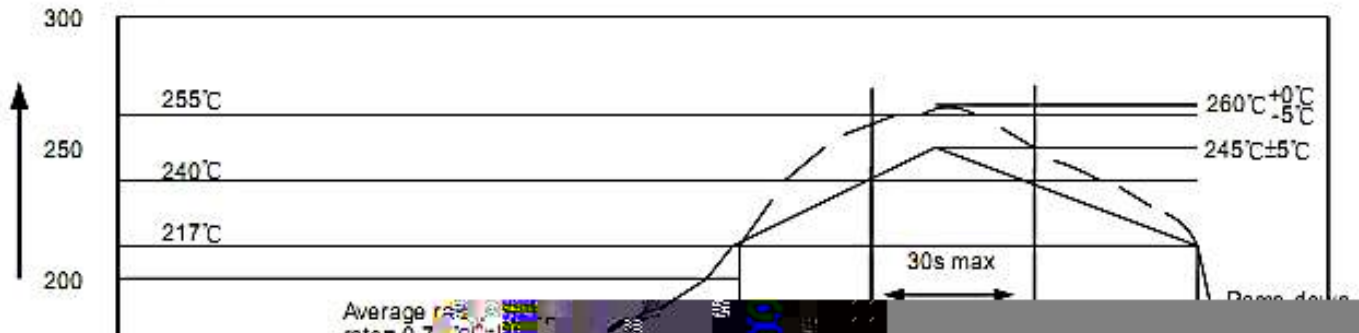
DIP8	◆	IC	DRAIN	GND	VDD	EMC
	◆					
	◆					
	◆	IC	1	2	GND	

钲铭科电子

RoHs

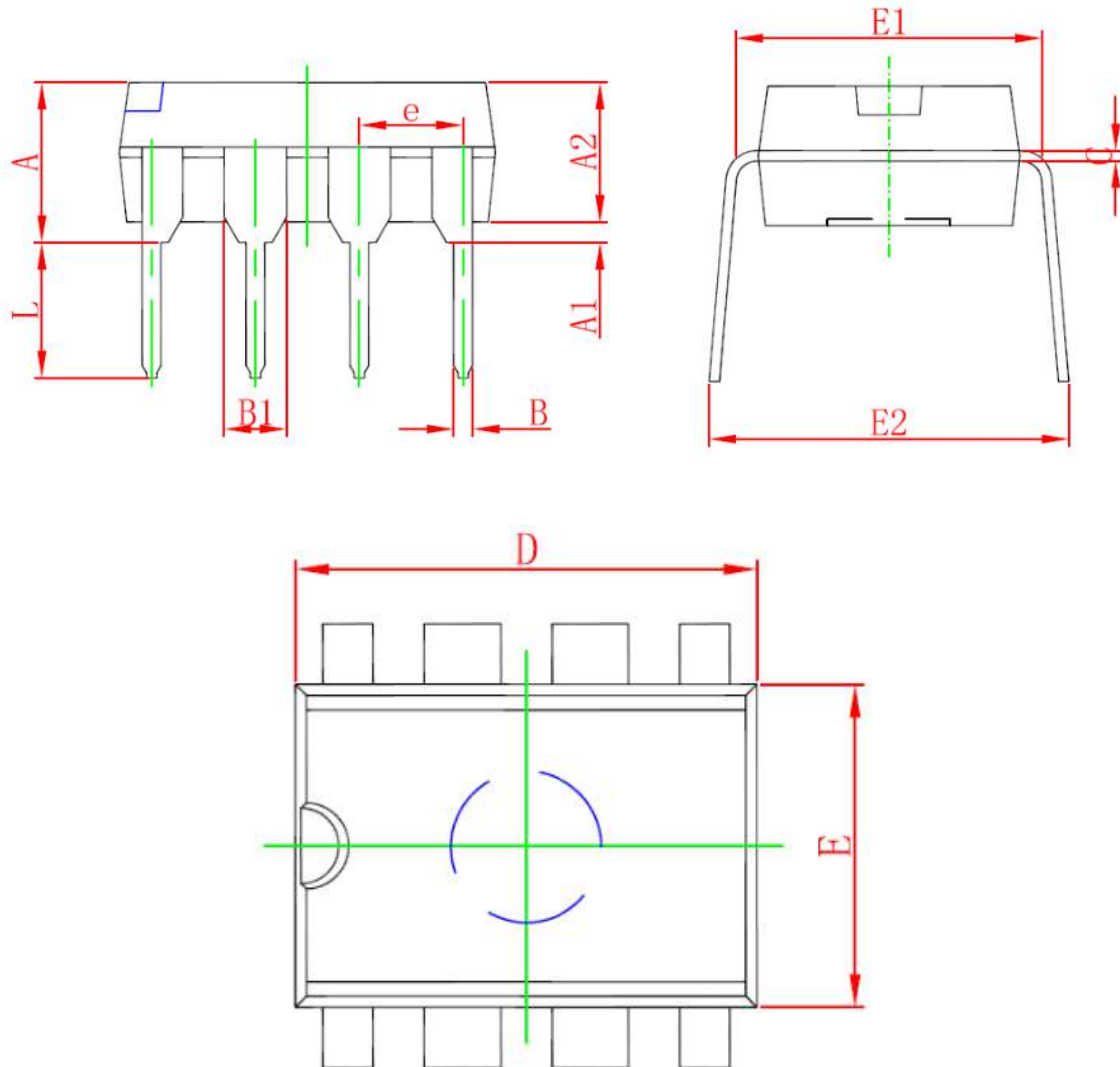
J-STD-020

Temperature (°C)



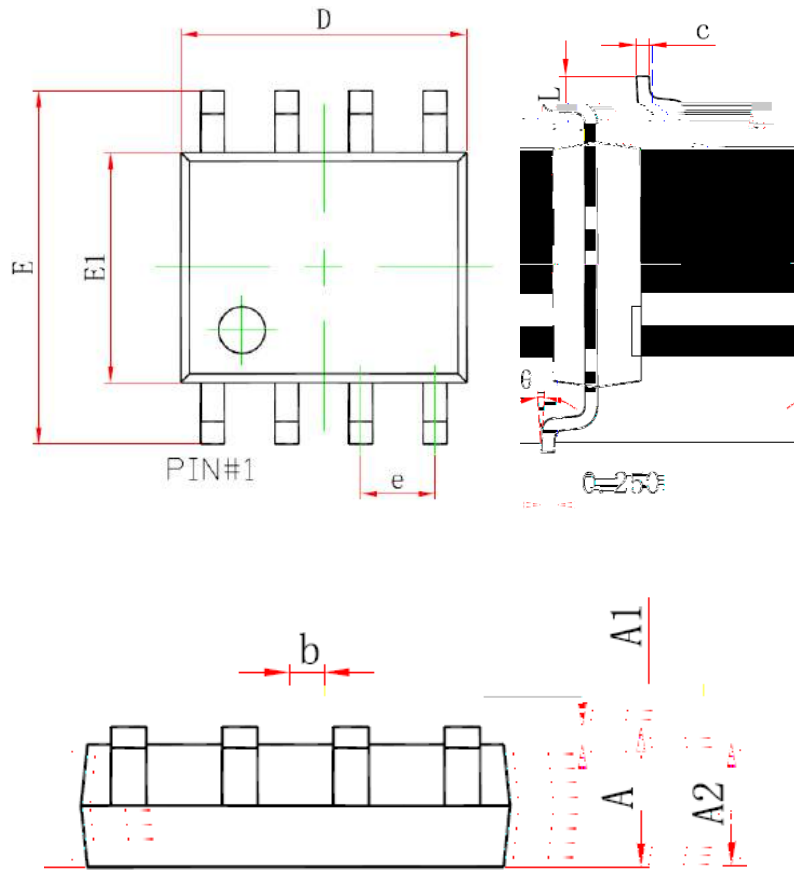
	mm <sup>3</sup> < 350	mm <sup>3</sup> 350~2000	mm <sup>3</sup> ≥ 2000
<1.6mm	260+0°C	260+0°C	260+0°C
1.6mm~2.5mm	260+0°C	250+0°C	245+0°C
≥2.5mm	250+0°C	245+0°C	245+0°C

DIP8



Symbol	Min(mm)	Max(mm)
A	-	4.8
A1	0.5	-
A2	3.0	3.7
B	0.3	0.6
B1	1.524(BSC)	
C	0.2	0.4
D	9.1	9.5
E	6.15	6.45
E1	7.2	8.4
e	2.54(BSC)	
L	2.8	4.0
E2	8.8(BSC)	

SOP8



Symbol	Min(mm)	Max(mm)
A	1.25	1.95
A1	-	0.25
A2	1.25	1.75
b	0.25	0.7
c	0.1	0.35
D	4.6	5.3
e	1.27(BSC)	
E	5.7	6.4
E1	3.7	4.2
L	0.2	1.5
$\theta$	0°	10°