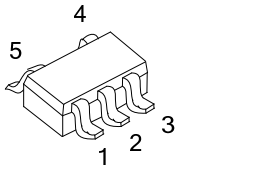
ADAPTIVE 100/120Hz CURRENT RIPPLE REMOVING CIRCUIT CONTROLLER



SOT-25

■ DESCRIPTION

UTC **ULD5121** is a controller, which drives external NMOSFET to remove the 100/120Hz LED current ripple on AC/DC power by a capacitor between VC and GND. The chip ensures minimum power dissipation on NMOSFET while removing LED current ripple relying on the adaptive technology.

UTC **ULD5121** allows user to setup the maximum cathode voltage of LED string by sensing the drain voltage of NMOSFET which could help limit the power dissipation on chip.

■ FEATURES

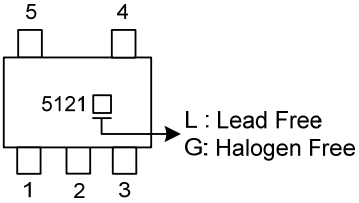
* Controller for adaptive 100/120Hz current ripple remover
* Amplitude of LED current ripple programming
* Maximum cathode voltage of LED programming
* Maximum LED current programming

■ ORDERING INFORMATION

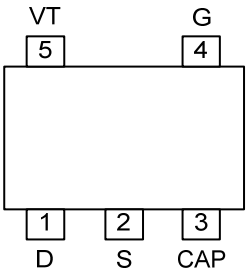
Ordering Number		Package	Packing
Lead Free	Halogen Free		
ULD5121L-AF5-R	ULD5121G-AF5-R	SOT-25	Tape Reel

ULD5121G-AF5-R (1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AF5: SOT-25 (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	D	Connecting NMOSFET Drain Pin
2	S	Connecting NMOSFET Source Pin
3	CAP	Programming LED Current Ripple Pin
4	G	Driving NMOSFET GATE Output Pin
5	VT	Programming LED Voltage Limit Pin

■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Voltage (D Pin to S Pin)		<20	V
Voltage (CAP Pin to S Pin)		<15	V
Voltage (G Pin to S Pin)		6 ~ 8	V
Voltage (VT Pin to S Pin)		<20	V
Junction Temperature	T_J	+150	°C
Lead Temperature	T_L	+260	°C
Storage Temperature	T_{STG}	-65 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	RATINGS	UNIT
Maximum Junction Temperature	T_J	+150	°C

■ THERMAL RESISTANCE

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	50	°C/W
Junction to Case	θ_{JC}	10	°C/W

■ ELECTRICAL CHARACTERISTICS T_A=25ºC, unless otherwise stated.

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Resistance Between D Pin and VC Pin	R_{D_VC}		40	47	52	KΩ
Resistance Between G Pin and VC Pin	R_{G_VC}		4.6	5.1	5.6	KΩ
Voltage (D Pin to VT Pin)	V_{D_VT}		0.5	0.7	0.9	V
Voltage (VT Pin to VC Pin)	V_{VT_VC}		5	6.5	8	V
Voltage (G Pin to S Pin)	V_{G_S}		5	6.5	8	V

■ TYPICAL APPLICATION CIRCUIT