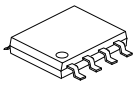
ULD5131

CMOS IC

ADAPTIVE 100/120Hz CURRENT RIPPLE REMOVING CIRCUIT CONTROLLER



SOP-8

■ DESCRIPTION

UTC **ULD5131** 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 **ULD5131** 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

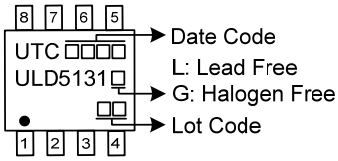
* Controller for adaptive 100/120Hz current ripple remover
* Amplitude of LED current ripple programming
* Maximum cathode voltage of LED programming
* Maximum LED current programming

■ ORDERING INFORMATION

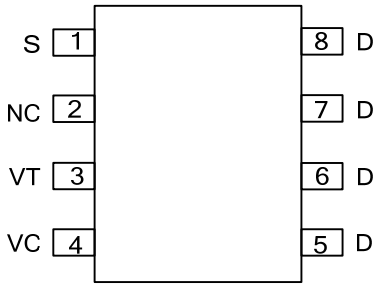
Ordering Number		Package	Packing
Lead Free	Halogen Free		
ULD5131L-S08-R	ULD5131G-S08-R	SOP-8	Tape Reel

ULD5131G-S08-R (1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel (2) S08: SOP-8 (3) G : Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ PIN CONFIGURATION



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	S	Connecting NMOSFET Source Pin
2	NC	NC
3	VT	Programming LED Voltage Limit Pin
4	VC	Programming LED Current Ripple Pin
5, 6, 7, 8	D	Connecting NMOSFET Drain Pin

■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
Junction Temperature	T_J	150	°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}	150	°C/W
Junction to Case	θ_{JC}	50	°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
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 (D Pin to S Pin)	V_{D-S}				30	V
Voltage (VC Pin to S Pin)	V_{VC-S}				8	V

■ TYPICAL APPLICATION CIRCUIT