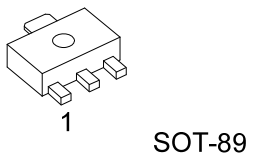
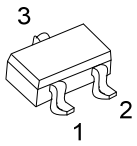
ULD5133

CMOS IC

ADAPTIVE 100/120Hz CURRENT RIPPLE REMOVING CIRCUIT CONTROLLER



SOT-89



SOT-23
(EIAJ SC-59)

■ DESCRIPTION

UTC **ULD5133** 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 **ULD5133** 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

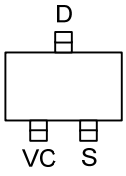
Ordering Number		Package	Packing
Lead Free	Halogen Free		
ULD5133L-AE3-R	ULD5133G-AE3-R	SOT-23	Tape Reel
ULD5133L-AB3-R	ULD5133G-AB3-R	SOT-89	Tape Reel

ULD5133G-AE3-R (1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel (2) AE3: SOT-23, AB3: SOT-89 (3) G : Halogen Free and Lead Free, L: Lead Free

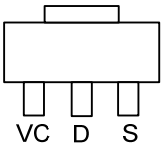
■ MARKING

SOT-23	SOT-89
5133	□□□□ ULD5133□ 1 Date Code L: Lead Free G: Halogen Free

■ PIN CONFIGURATION



SOT-23



SOT-89

■ PIN DESCRIPTION

PIN NO.		PIN NAME	DESCRIPTION
SOT-23	SOT-89		
1	1	VC	Programming LED Current Ripple Pin
2	3	S	Connecting NMOSFET Source Pin
3	2	D	Connecting NMOSFET Drain Pin

■ ABSOLUTE MAXIMUM RATING

PARAMETER	SYMBOL	RATINGS	UNIT
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	SOT-23	θ_{JA}	325	°C/W
	SOT-89		180	°C/W
Junction to Case	SOT-23	θ_{JC}	110	°C/W
	SOT-89		38	°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 S Pin)	V_{D-S}				30	V
Voltage (VC Pin to S Pin)	V_{VC-S}				8	V

■ TYPICAL APPLICATION CIRCUIT