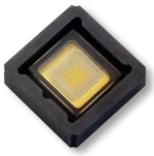
Stanley Electric's IR VCSELs

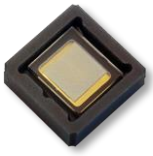
IR VCSEL series

Automotive quality AEC-Q102-compliant, highly reliable packages

High quality package engineering realizes high heat dissipation



UDN1Z54
(54x43 deg.)



UEN1ZA9
(110x85 deg.)

Applications

Automotive

DMS / OMS
(Occupant Monitoring System)

Gesture control

Industry

LiDAR / ToF sensors

Features

- High heat dissipation structure and highly reliable package engineering cultivated through the years by creating high-power LEDs for headlamps
- Automotive interior quality compliant with AEC－Q102
- Eye safety compliant engineering : IEC 60825 (JIS C6802)
- A lineup of two types of variations (output and light distribution) to match each application
  ＊Protection diode (PD) available for safety (diffuser dropout detection)

Specifications

RoHS2 Pb-free HEAT

Product name			UDN1Z54	UDN1ZE54	UEN1ZA9	UEN1ZEA9	Unit
Electrical/Optical characteristics ※1	Central emission wavelength	λc	940		940		nm
	Irradiation angle	FOV	54 (X direction) x 43 (Y direction)		110 (X direction) x 85 (Y direction)		deg.
	Light output (peak)	Po	2.1 (I_F=2.7A)		2.8 (I_F=4A)		W
	Threshold current	Ith	0.3		0.7		A
	Forward voltage	V_F	2.1 (I_F=2.7A)		2.1 (I_F=4A)		V
	Response speed	tr/tf	1 (10-90%)		1 (10-90%)		ns
	PD Photocurrent	Ip	－	1.0	－	1.0	mA
	PD Dark current	Id	－	10.0	－	10.0	nA
	PD Bonding capacity※2	Cj	－	0.7	－	0.7	pF
Absolute maximum ratings	Forward current	I_F	2		2		A
	Pulsed forward current	I_{FRM}	6		10		A
	Operating temp.	Topr	-40～+125	-40～+105	-40～+125	-40～+105	℃
	Storage temp.	Tstg	-40～+125		-40～+125		℃
Thermal resistance ※3		$Rth_{(j-s)}$	10		10		℃/W
External dimensions		L×W×H	3.5 × 3.5 × 1.225		3.5 × 3.5 × 1.225		mm

Ts=50℃

※1 Pulsed current : 0.3msec pulse 1/100 duty
※2 Vr＝3V,H=0,F=1MHz
※3 Thermal resistance: Junction - Soldering section

STANLEY ELECTRIC CO.,LTD.

The information is current as of June 2022.

https://info.stanley.co.jp/public/application/add/64
https://www.stanley-components.com/en/