



IR Emitter and Detector Product Data Sheet

LTR-5889DH

Spec No.: DS50-2007-0032

Effective Date: 07/26/2007

Revision: -

LITE-ON DCC

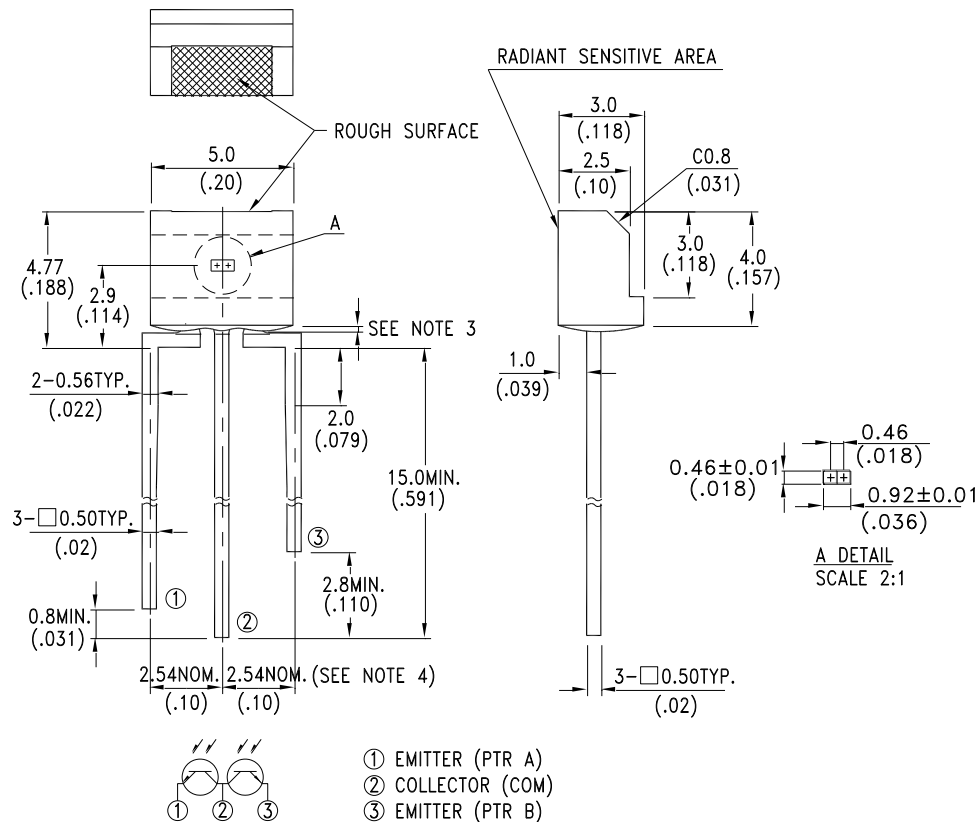
RELEASE

BNS-OD-FC001/A4

FEATURES

- * WIDE RANGE OF COLLECTOR CURRENT
- * HIGH SENSITIVITY
- * FAST SWITCHING TIME
- * THE LTR-5889DH IS A SPECIAL DARK GREEN PLASTIC PACKAGE THAT CUT THE VISIBLE FOR THE DETECTORS OF INFRARED APPLICATIONS

PACKAGE DIMENSIONS



NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm} (.010\text{'})$ unless otherwise noted.
3. Protruded resin under flange is $1.5\text{mm} (.059\text{'})$ max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.



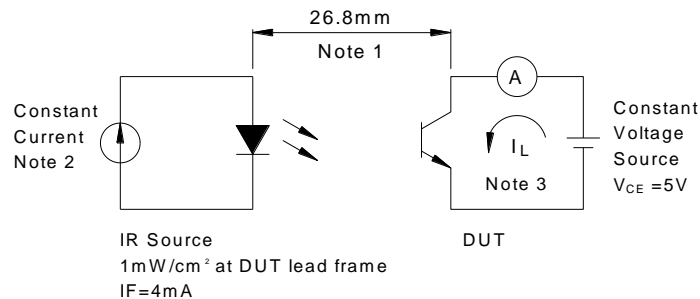
ABSOLUTE MAXIMUM RATINGS AT TA=25°C

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation	100	mW
Collector-Emitter Voltage	30	V
Emitter-Collector Voltage	5	V
Operating Temperature Range	-10°C to + 50°C	
Storage Temperature Range	-55°C to + 100°C	
Lead Soldering Temperature [1.6mm(.063") From Body]	260°C for 5 Seconds	

ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION	BIN No.	Color Marking
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			V	$I_c = 1mA$ $E_e = 0mW/cm^2$		
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5			V	$I_E = 100 \mu A$ $E_e = 0mW/cm^2$		
Collector Emitter Saturation Voltage	$V_{CE(SAT)}$		0.1	0.4	V	$I_c = 50 \mu A$ $E_e = 1.0mW/cm^2$		
Rise Time	T_r		15		μs	$V_{CC} = 5V$ $I_c = 1mA$ $R_L = 1K\Omega$		
Fall Time	T_f		18		μs			
Collector Dark Current	I_{CEO}		0.1	100	nA	$V_{CE} = 10V$ $E_e = 0mW/cm^2$		
On Stage Collector Current Ratio (I_{L1}/I_{L2})	R	0.8	1.0	1.2				
Average On State Collector Current Range Setting of LITE-ON Production (I_{L1}/I_{L2})/2	$I_{C(ON)}$	100		200	μA	$V_{CE} = 5V$ $E_e = 1mW/cm^2$	BIN A	Red
		200		300			BIN B	Black
		300		400			BIN C	Green
		400		500			BIN D	Blue
Average On State Collector Current Range Q.C Limits (I_{L1}/I_{L2}) / 2	$I_{C(ON)}$	80		240	μA	$V_{CE} = 5V$ $E_e = 1mW/cm^2$	BIN A	Red
		160		360			BIN B	Black
		240		480			BIN C	Green
		320		600			BIN D	Blue

On State Collector Current Test Method



- Notes: 1. IR source package face to DUT lead frame.
 2. IR source bias level calibrated for $1mW/cm^2$ at DUT.
 3. I_L shown is one of two emitter currents, I_{L1} and I_{L2} .

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

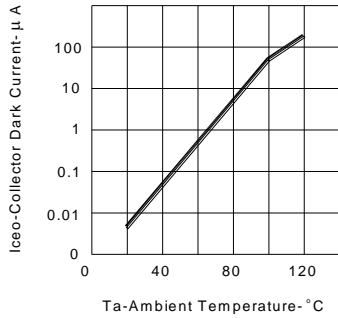


FIG.1 COLLECTOR DARK CURRENT VS AMBIENT TEMPERATURE

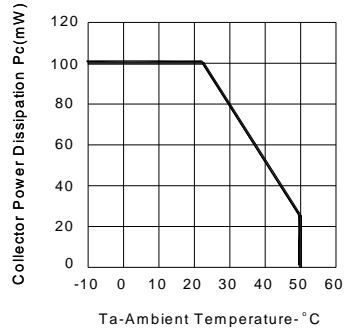


FIG.2 COLLECTOR POWER DISSIPATION VS AMBIENT TEMPERATURE

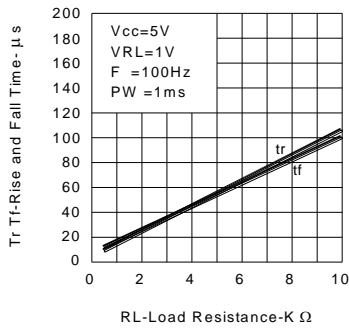


FIG.3 RISE AND FALL TIME VS LOAD RESISTANCE

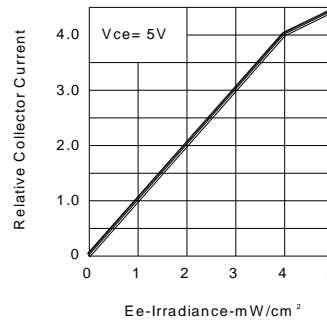


FIG.4 RELATIVE COLLECTOR CURRENT VS IRRADIANCE

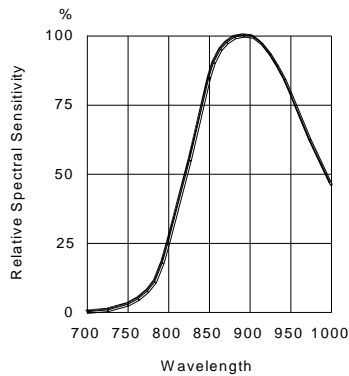


Fig.5 RELATIVE SPECTRAL SENSITIVITY VS. WAVELENGTH