



599 SERIES

Phototransistor SMD LED

0805 Package Top View 940nm

MECHANICAL / SPECIFICATIONS

PART NUMBER:

599-11C0-147PTF

DIMENSIONS:

2.0 x 1.3 x 0.8mm

LENS COLOR:

Clear

LENS MATERIAL:

Epoxy

STANDARD PACKAGING:

4000/reel

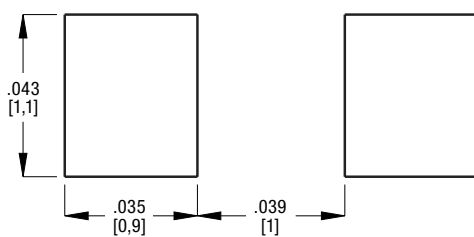
MOISTURE SENSITIVITY LEVEL:

2a

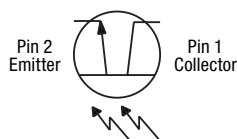
CERTIFICATIONS & RATINGS

RoHS Compliant

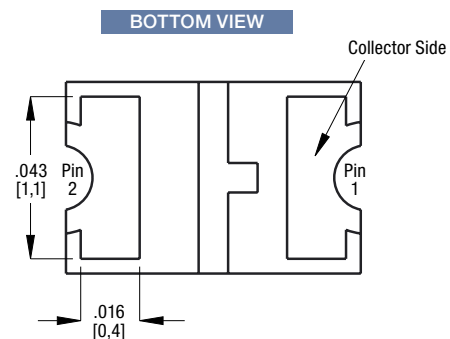
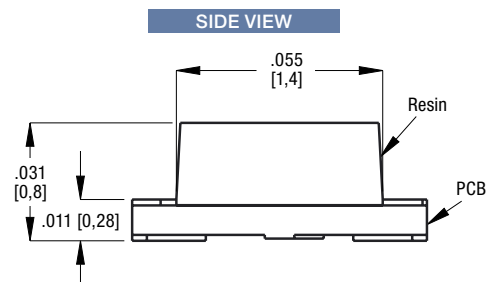
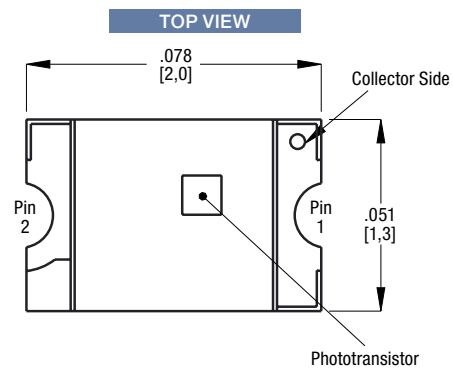
RECOMMENDED PAD LAYOUT



LED SCHEMATIC



DIMENSIONS inches [mm]



ABSOLUTE MAXIMUM RATINGS AT 25°C

Symbol	Parameter	Ratings	Units	Notes
V_{CE0}	Collector-Emitter Voltage	35	V	
V_{ECO}	Emitter-Collector Voltage	5	V	
I_C	Collector Current	20	mA	
T_{opr}	Operating Temperature	-40~+85	°C	
T_{stg}	Storage Temperature	-40~+100	°C	
T_{sol}	Soldering Temperature	260	°C	1
P_{to}	Total Power Dissipation	150	mW	

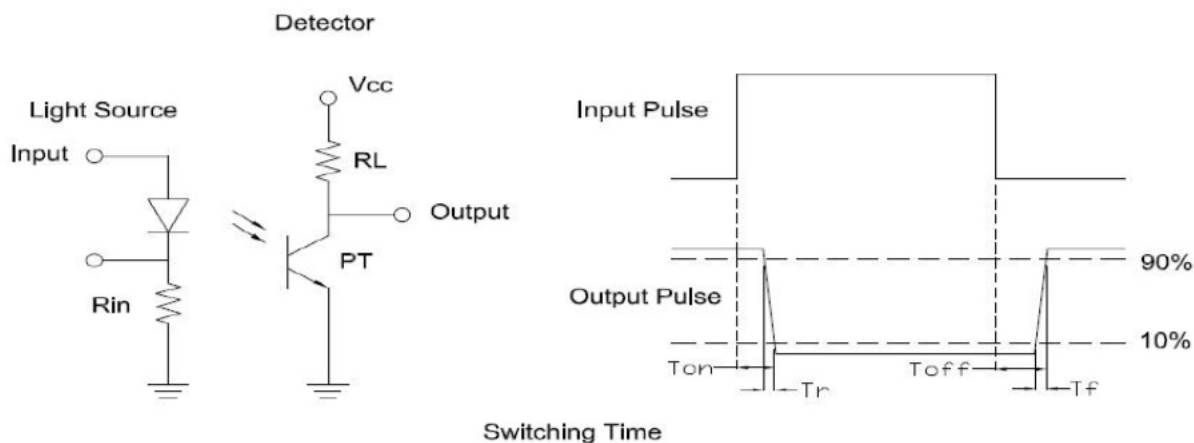
Notes:

1. Soldering time $\leq$ 5 seconds.

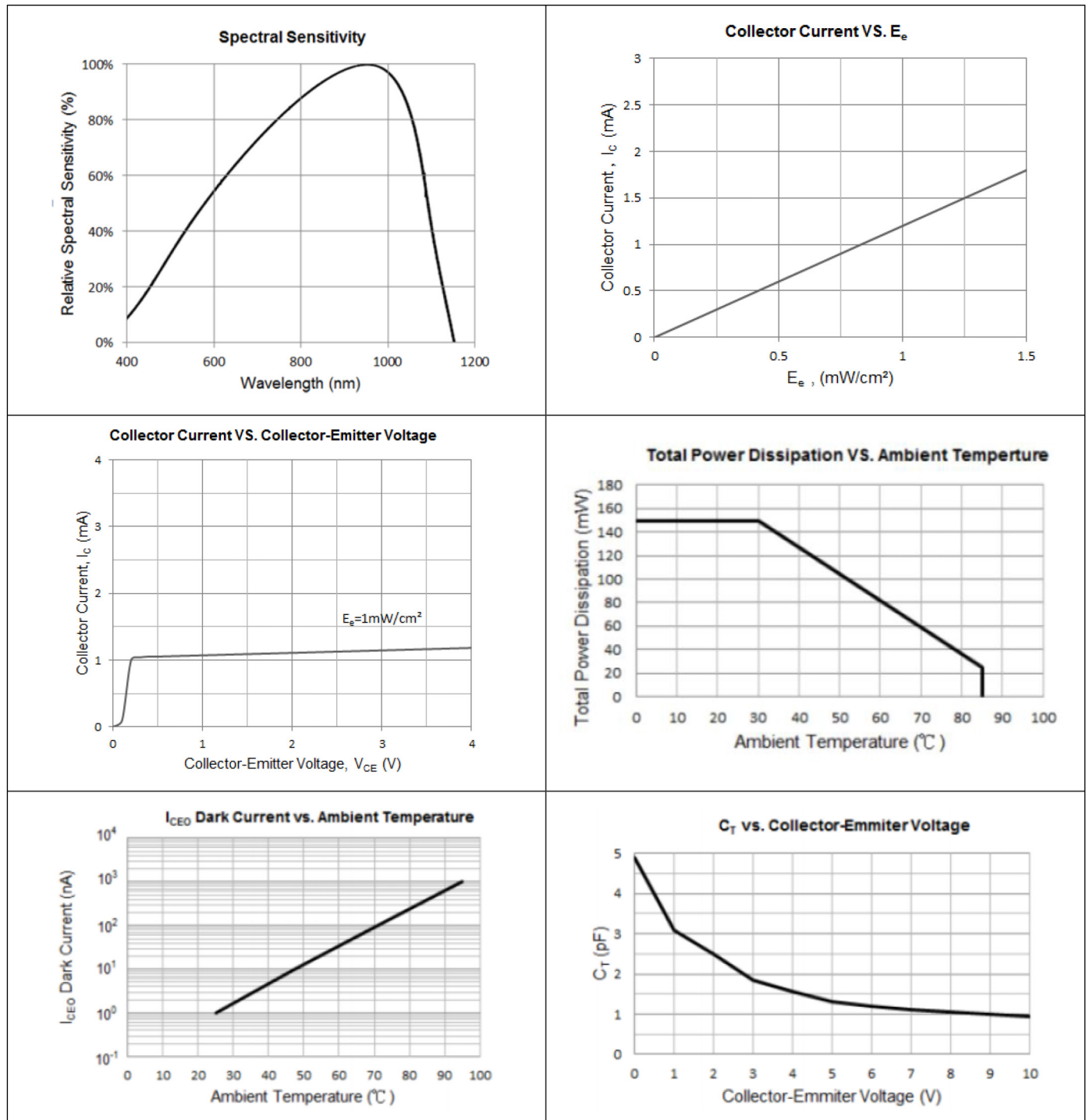
ELECTRICAL - OPTICAL CHARACTERISTICS

Symbol	Parameters	Test Conditions	Min	Typ	Max	Unit
$\lambda_{0.5}$	Range Of Spectral Bandwidth	-	400	-	1100	nm
λ_p	Wavelength Of Peak Sensitivity	-	-	940	-	nm
BV_{CE0}	Collector-Emitter Breakdown Voltage	$I_C=100\mu A$ $E_e=0mW/cm^2$	35	-	-	V
BV_{ECO}	Emitter-Collector Breakdown Voltage	$I_E=100\mu A$ $E_e=0mW/cm^2$	5	-	-	V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2mA$ $E_e=1mW/cm^2$	-	-	0.4	V
I_{CE0}	Collector Dark Current	$V_{CE}=20V$ $E_e=0mW/cm^2$	-	-	100	nA
$I_{C(ON)}$	On State Collector Current	$E_e=1mW/cm^2$ $\lambda_p=940nm, V_{CE}=5V$	0.1	1.0	2.0	mA
t_r	Rise Time	$V_{CE}=5V, I_C=1mA$ $R_L=1000\Omega$	-	15	-	μS
t_f	Fall Time		-	15	-	μS
C_T	Transition Capacitance	$E_e=0mW/cm^2$ $F=1MHz, V_R=5V$		5		pF

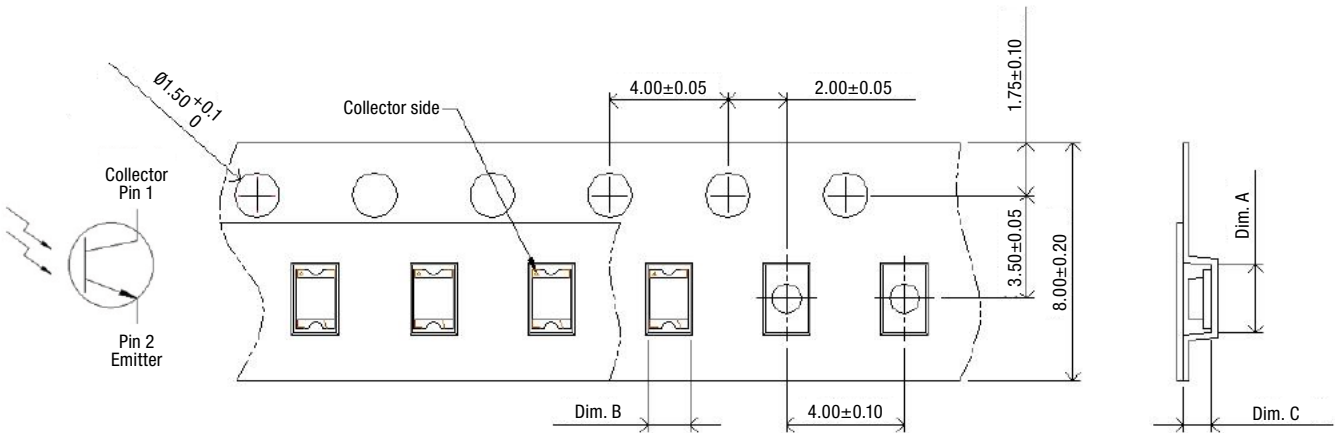
TEST CIRCUIT



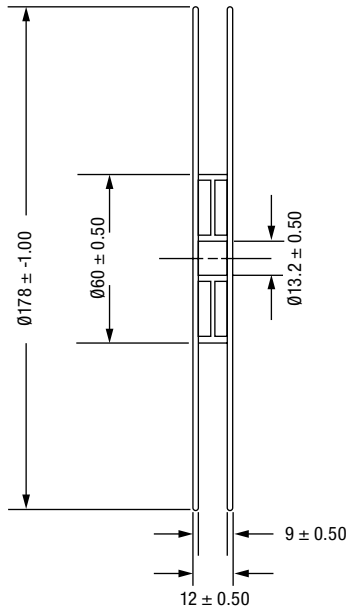
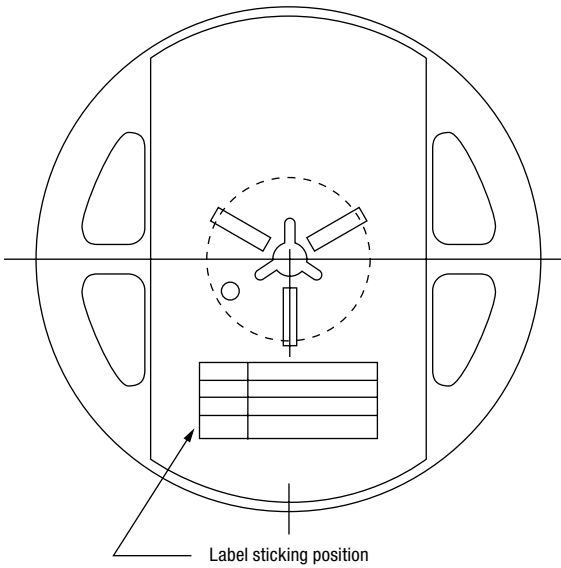
TYPICAL ELECTRICAL-OPTICAL CHARACTERISTICS



TAPE AND REEL SPECIFICATION



Dim A	Dim B	Dim C	Quantity/Reel
2.30±0.05	1.45±0.05	0.95±0.05	4K



Unit: mm

REFLOW SOLDERING

Recommended soldering paste specifications:

1. Operating temp.: Above 217°C, 60~150sec.
2. Peak temp.: 260°C Max., 10sec Max.
3. Reflow soldering should not be done more than two times.

LEAD-FREE SOLDER PROFILE

