



MPT-3216B-H19-Z3

1206 Round Subminiature Package Phototransistor

Descriptions

MPT-3216B-H19-Z3 is a phototransistor in miniature SMD package which is molded in a black with spherical top view lens. The device is Spectrally matched to visible and infrared emitting diode.

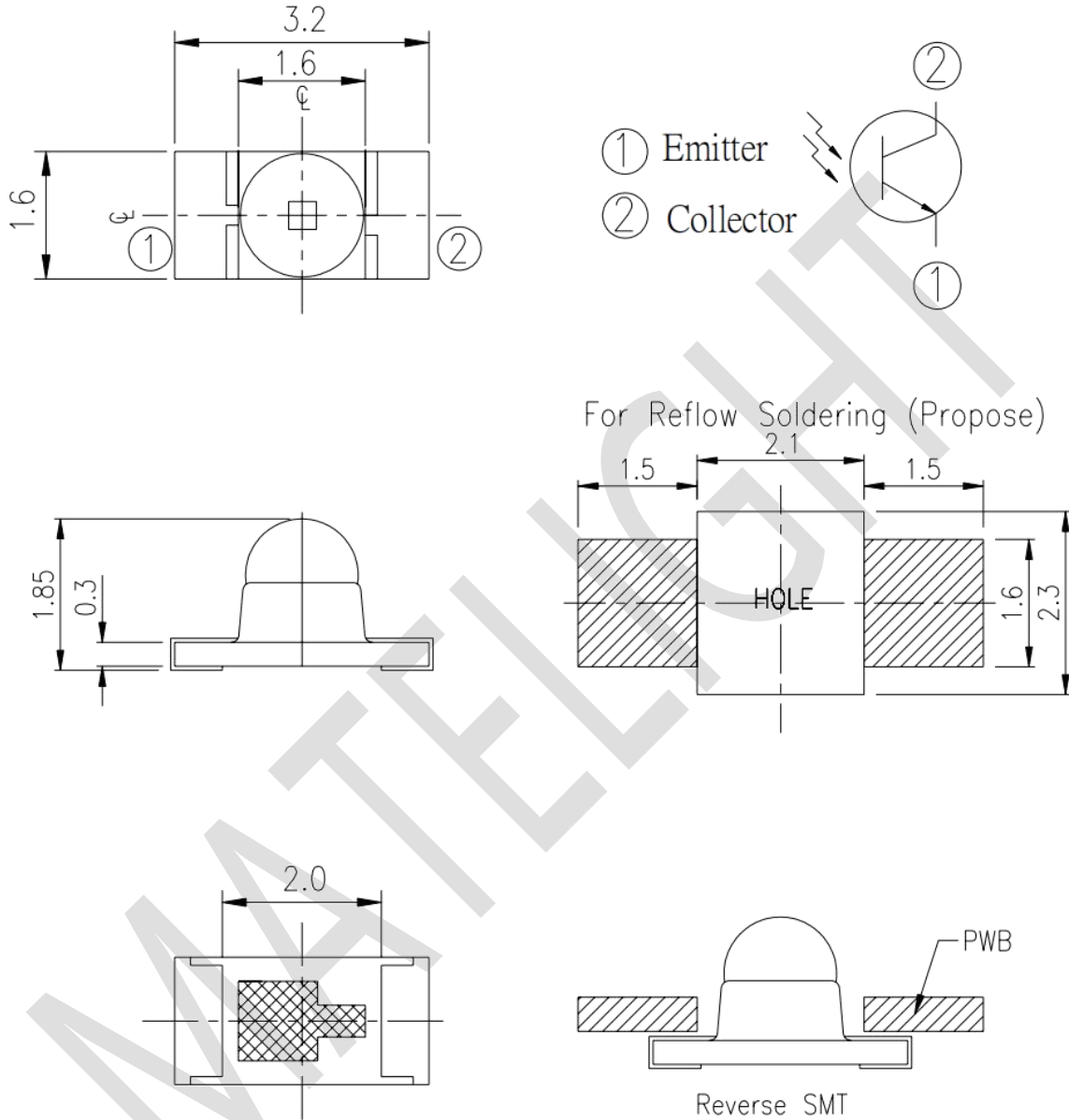
Features

- Fast response time
- High photo sensitivity
- Small junction capacitance
- Pb free
- The product itself will remain within RoHS compliant version.
- Compliance with EU REACH

Applications

- Miniature switch
- Counters and sorter
- Position sensor
- Infrared applied system
- Encoder

Package Dimension



Notes:

- 1.All dimensions are in millimeters
 - 2.Tolerances unless dimensions $\pm 0.1\text{mm}$
 - 3.Suggested pad dimension is just for reference only
- Please modify the pad dimension based on individual need

Absolute Maximum Ratings

Parameter (Ta=25°C)	Symbol	Ratings	Unit
Power Dissipation at(or below) 25 Free Air Temperature	Pd	75	mW
Collector-Emitter Voltage	V _{CEO}	30	V
Emitter-Collector-Voltage	V _{ECO}	5	V
Collector Current	I _{c(ON)}	20	mA
Operating Temperature	Topr	-25~+85	°C
Storage Temperature	Tstg	-40~+85	°C
Lead Soldering Temperature (2mm form body for 5 seconds)	Tsol	260	°C

Electro-Optical Characteristics

Paramete (Ta=25°C)	Symbol	Condition	Min.	Typ.	Max.	Units
Collector – Emitter Breakdown Voltage	BV _{CEO}	I _C =100μA Ee=0mW/cm ²	30	--	--	V
Emitter-Collector Breakdown Voltage	BV _{ECO}	I _E =100μA Ee=0mW/cm ²	5	--	--	V
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =2mA Ee=1mW/cm ²	--	--	0.4	V
Rise Time	t _r	V _{CE} =5V I _C =1mA R _L =1000Ω	--	15	--	μS
Fall Time	t _f	V _{CE} =5V I _C =1mA R _L =1000Ω	--	15	--	μS
Collector Dark Current	I _{CEO}	Ee=0mW/cm ² V _{CE} =20V	--	--	100	nA
On State Collector Current	I _{c(ON)}	Ee=1mW/cm ² V _{CE} =5V	--	2.0	--	mA
Rang Of Spectral Bandwidth	λ _{0.5}	--	730	--	1100	nm
Wavelength of Peak Sensitivity	λ _p	--	--	940	--	nm

Rank

Parameter	Symbol	Condition	Min.	Max.	Unit
BIN2	$I_{c(ON)}$	$E_e=1\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$	0.30	0.82	mA
BIN3	$I_{c(ON)}$	$E_e=1\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$	0.70	1.90	mA
BIN4	$I_{c(ON)}$	$E_e=1\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$	1.14	2.60	mA
BIN5	$I_{c(ON)}$	$E_e=1\text{mW}/\text{cm}^2$ $V_{CE}=5\text{V}$	1.77	3.61	mA

Typical Electrical/Optical/Characteristics Curves

Fig.1 Collector Power Dissipation vs. Ambient Temperature

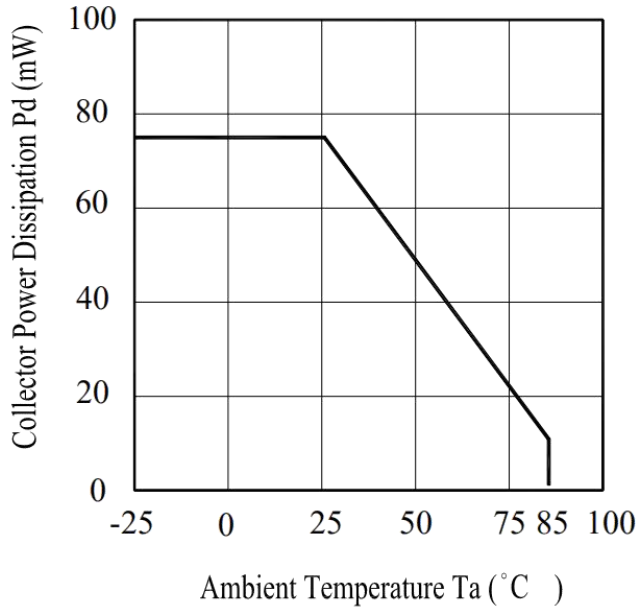


Fig.2 Spectral Sensitivity

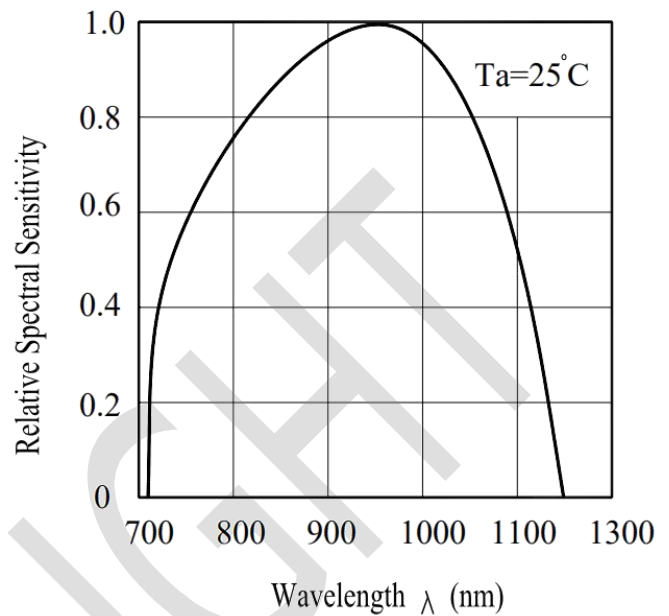


Fig.3 Relative Collector Current vs. Ambient Temperature

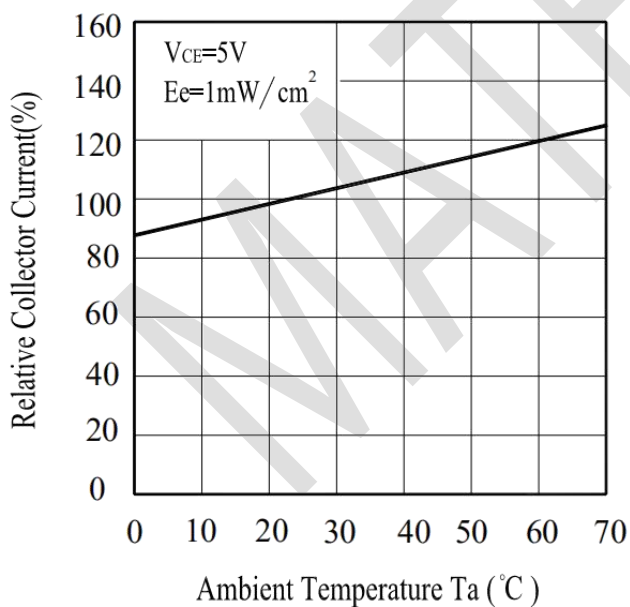


Fig.4 Collector Current vs. Irradiance

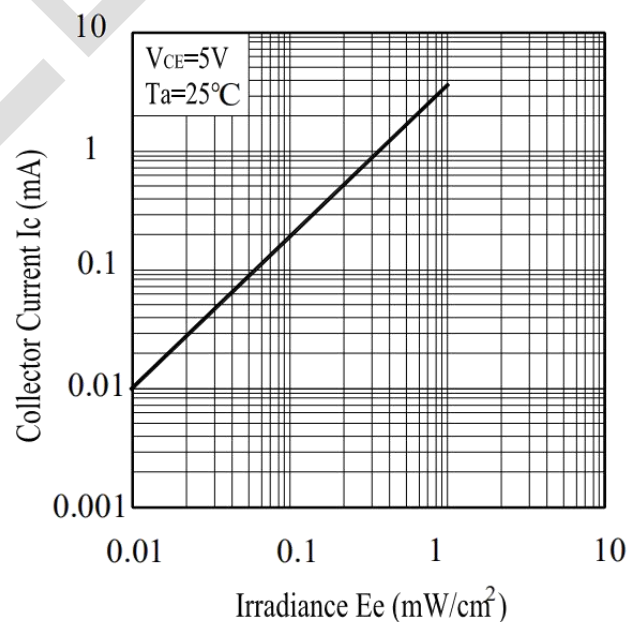


Fig.5 Collector Dark Current vs. Ambient Temperature

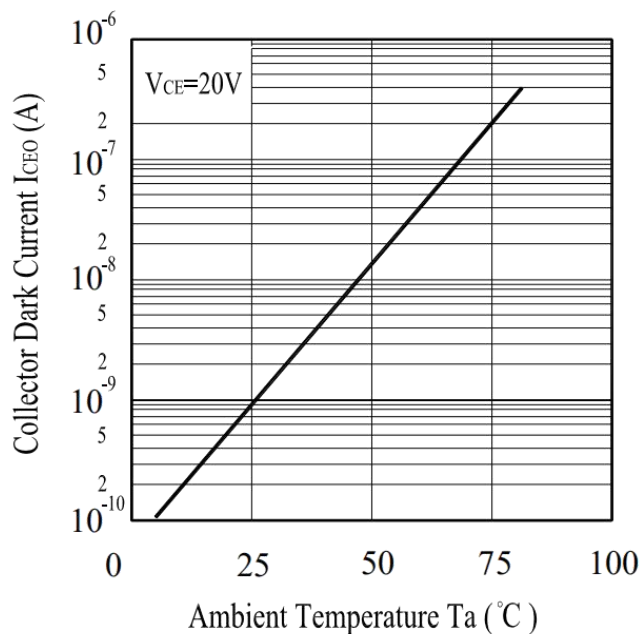
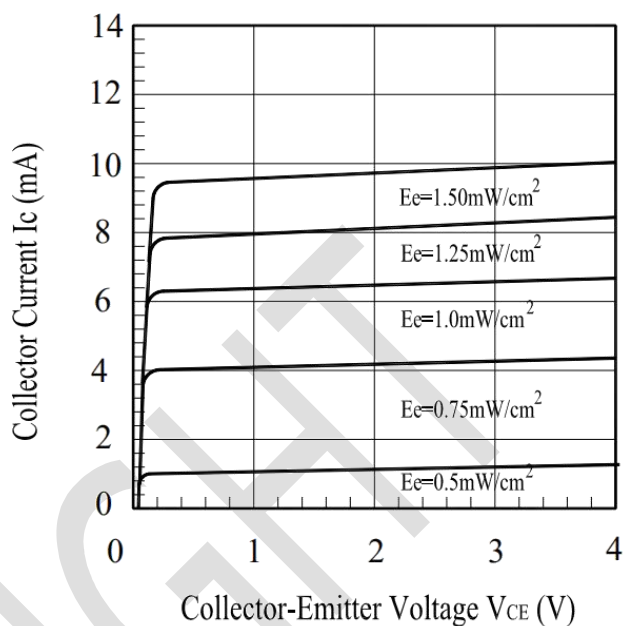
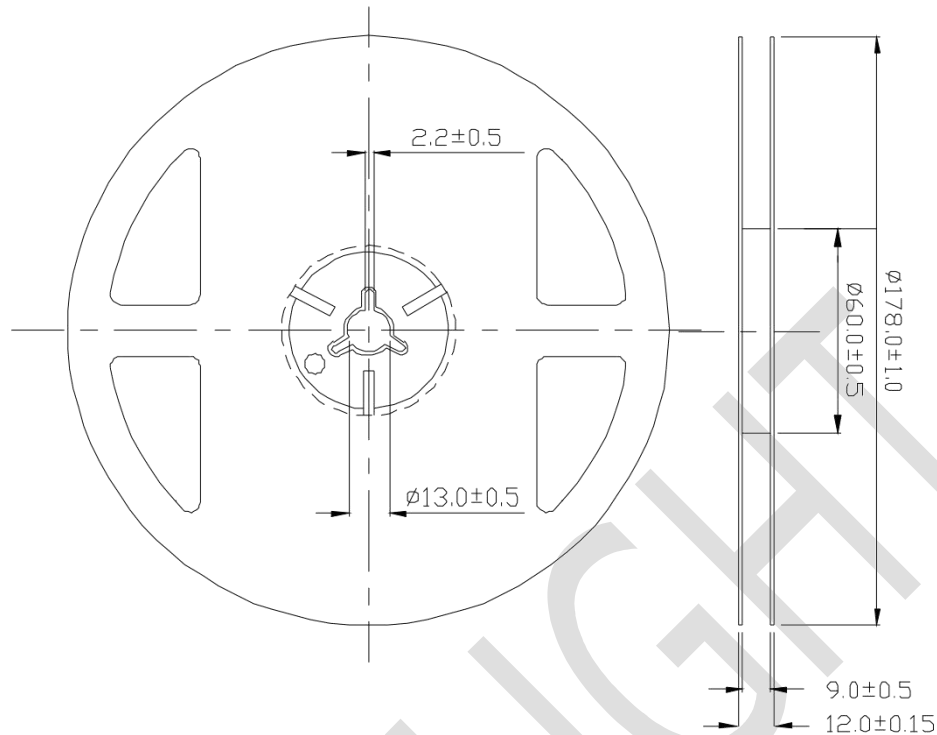


Fig.6 Collector Current vs. Collector-Emitter Voltage

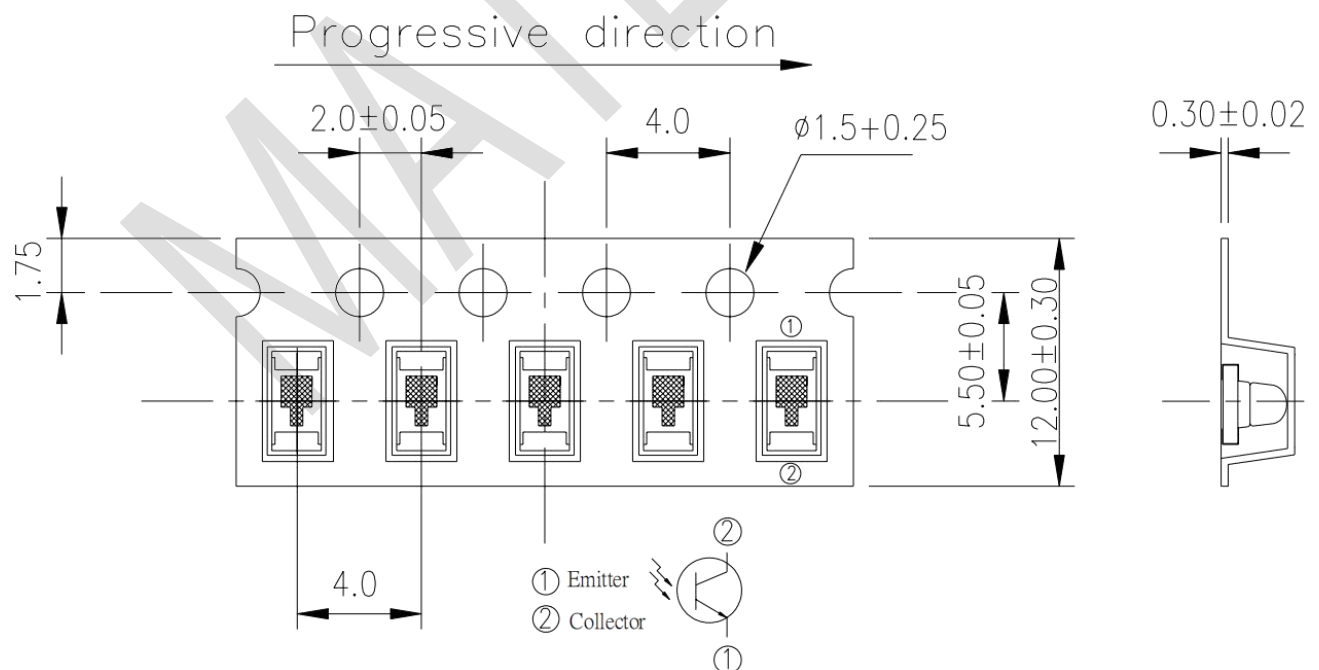


Package Dimensions



Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$, Unit = mm

Carrier Tape Dimensions:(Quantity: 3000pcs/reel)



Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$, Unit = mm

Notes

1. Above specification may be changed without notice. MATE LIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instruction for using outlined in these specification sheets. MATE LIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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