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## NTE3105

### Opto Interrupter Module

### Photo Reflector, NPN Transistor Output

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

**Emitter**

Continuous Reverse Voltage, $V_R$ .....	3V
Continuous Forward Current, $I_F$ .....	50mA
Power Dissipation, $P_D$ .....	75mW
Derate Above $25^\circ\text{C}$ .....	1mW/ $^\circ\text{C}$

**Detector**

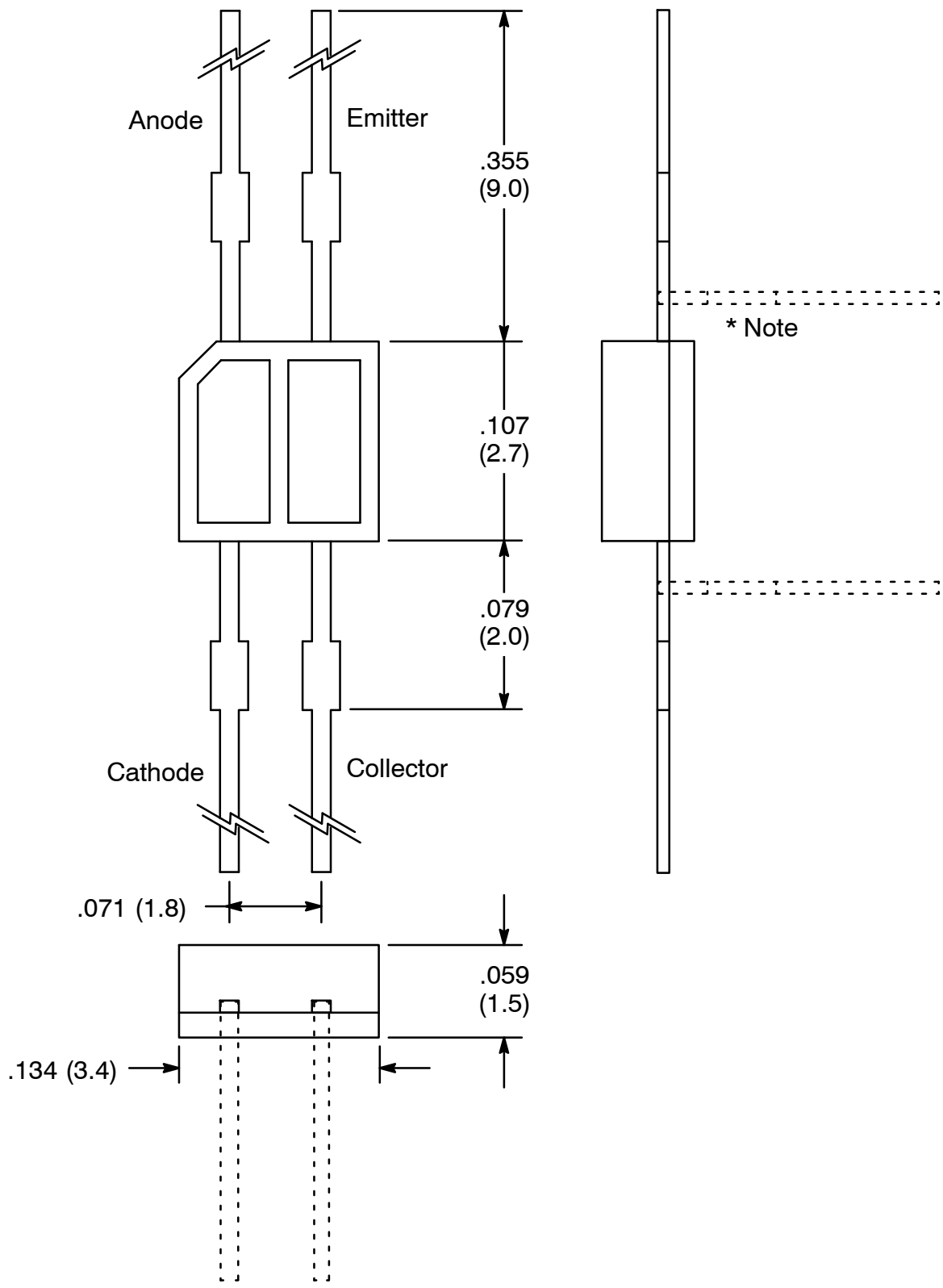
Collector-Emitter Voltage, $V_{CEO}$ .....	30V
Emitter-Collector Voltage, $V_{ECO}$ .....	5V
Collector Current, $I_C$ .....	20mA
Collector Power Dissipation, $P_C$ .....	50mW
Derate Above $25^\circ\text{C}$ .....	0.67mW/ $^\circ\text{C}$

**Coupled**

Operating Temperature Range, $T_{opr}$ .....	-20° to +85°C
Storage Temperature Range, $T_{stg}$ .....	-30° to +100°C

**Electro-Optical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>Emitter</b>						
Forward Voltage	$V_F$	$I_F = 50\text{mA}$	-	1.3	1.5	V
Reverse Current	$I_R$	$V_R = 3\text{V}$	-	0.01	10	$\mu\text{A}$
Capacitance	$C_t$	$V_R = 0, f = 1\text{MHz}$	-	30	-	pF
<b>Detector</b>						
Dark Current	$I_{CEO}$	$V_{CE} = 10\text{V}$	-	-	200	nA
<b>Coupled</b>						
Output Current	$I_O$	$I_F = 10\text{mA}, V_{CC} = 5\text{V}, R_L = 100\Omega, d = 1\text{mm}$	90	-	880	$\mu\text{A}$
Collector Dark Current	$I_D$	$I_F = 10\text{mA}, V_{CC} = 5\text{V}, R_L = 100\Omega$	-	-	200	nA
Rise Time	$t_r$	$V_{CC} = 5\text{V}, I_C = 0.1\text{mA}, R_L = 100\Omega$	-	20	-	$\mu\text{s}$
Fall Time	$t_f$		-	20	-	$\mu\text{s}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_F = 20\text{mA}, I_C = 0.1\text{mA}$	-	-	0.4	V



**Note:** May have formed leads.