

### FEATURES

- No contact switching
- 2.41 mm wide slot
- Slot horizontal to mounting surface
- Mounting tabs
- Transistor Output
- Wire leads for remote connection 10" (254mm)
- Opaque black plastic housing
- 0.010 (0.25) aperture width

### NOTES (Applies to Max Ratings and Characteristics Tables.)

1. Derate power dissipation linearly 1.67 mW/°C above 25°C.
2. RMA flux is recommended.
3. Methanol or isopropyl alcohols are recommended as cleaning agents.
4. Soldering iron 1/16" (1.6mm) minimum from housing.

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)			
Parameter	Symbol	Rating	Units
Operating Temperature	$T_{OPR}$	-40 to +85	°C
Storage Temperature	$T_{STG}$	-40 to +85	°C
Lead Soldering Temperature (Iron) <sup>(2,3,4)</sup>	$T_{SOL-I}$	240 for 5 sec	°C
<b>EMITTER</b>			
Continuous Forward Current	$I_F$	50	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation <sup>(1)</sup>	$P_D$	100	mW
<b>SENSOR</b>			
Collector-Emitter Voltage	$V_{CEO}$	30	V
Emitter-Collector Voltage	$V_{ECO}$	4.5	V
Power Dissipation <sup>(1)</sup>	$P_D$	100	mW

ELECTRICAL / OPTICAL CHARACTERISTICS (T <sub>A</sub> = 25°C)						
PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNITS
<b>EMITTER</b>						
Forward Voltage	I <sub>F</sub> = 20 mA	V <sub>F</sub>	—	—	1.7	V
Reverse Current	V <sub>R</sub> = 5 V	I <sub>R</sub>	—	—	100	μA
Peak Emission Wavelength	I <sub>F</sub> = 20 mA	λ <sub>PE</sub>	—	940	—	nm
<b>SENSOR</b>						
Collector-Emitter Breakdown	I <sub>C</sub> = 1 mA	BV <sub>CEO</sub>	30	—	—	V
Emitter-Collector Breakdown	I <sub>E</sub> = 0.1 mA	BV <sub>ECO</sub>	5	—	—	V
Dark Current	V <sub>CE</sub> = 10 V, I <sub>F</sub> = 0 mA	I <sub>D</sub>	—	—	100	nA
<b>COUPLED</b>						
Collector Current	I <sub>F</sub> = 20 mA, V <sub>CE</sub> = 10 V	I <sub>C(ON)</sub>	0.5	—	—	mA
Collector Emitter Saturation Voltage	I <sub>F</sub> = 20 mA, I <sub>C</sub> = 0.4 mA	V <sub>CE(SAT)</sub>	—	—	0.4	V
Rise Time	V <sub>CE</sub> = 5 V, R <sub>L</sub> = 100 Ω	t <sub>r</sub>	—	8	—	μs
Fall Time	I <sub>C(ON)</sub> = 5 mA	t <sub>f</sub>	—	50	—	μs

### TYPICAL PERFORMANCE CURVES

Fig. 1 Forward Voltage vs. Ambient Temperature

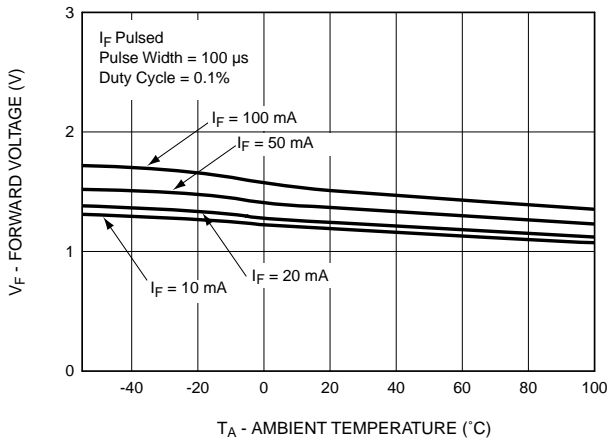


Fig. 2 Forward Current Vs. Forward Voltage

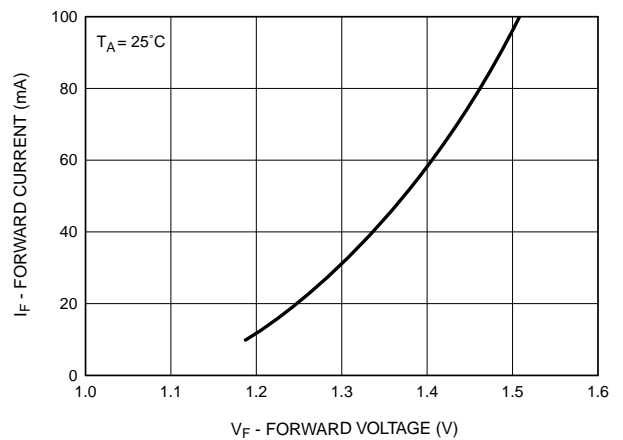


Fig. 3 Collector Emitter Dark Current (Normalized) vs. Ambient Temperature

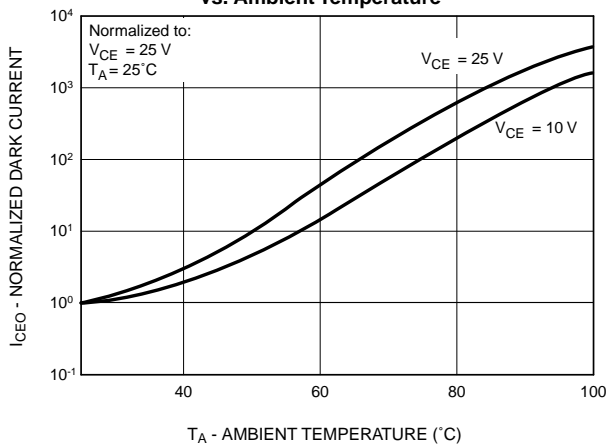
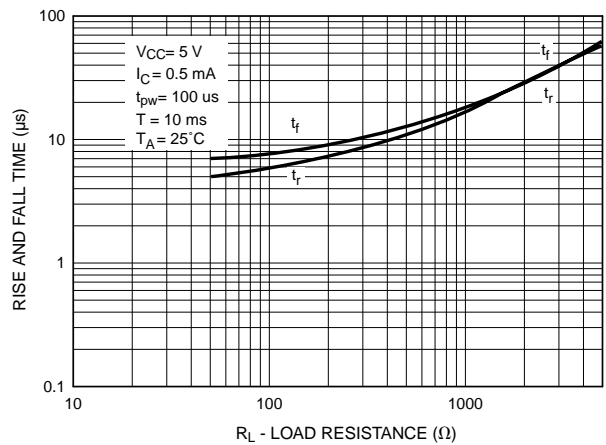
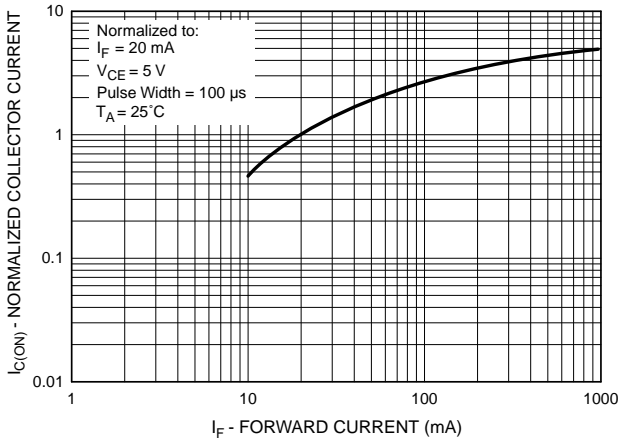


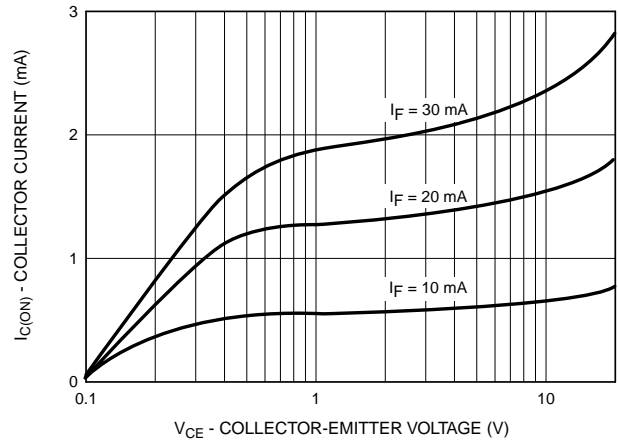
Fig. 4 Rise and Fall Time vs. Load Resistance



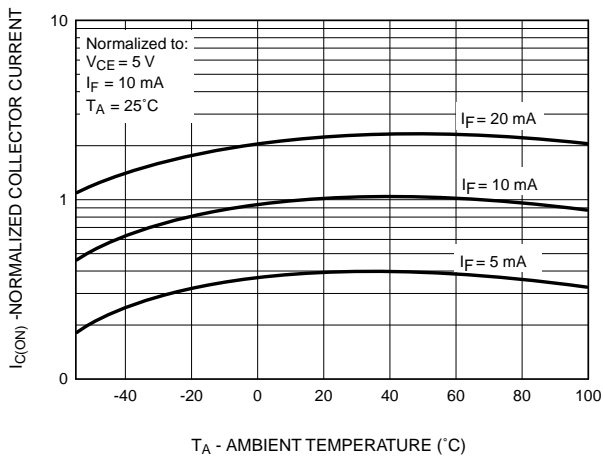
**Fig. 5 Normalized Collector Current vs. Forward Current**



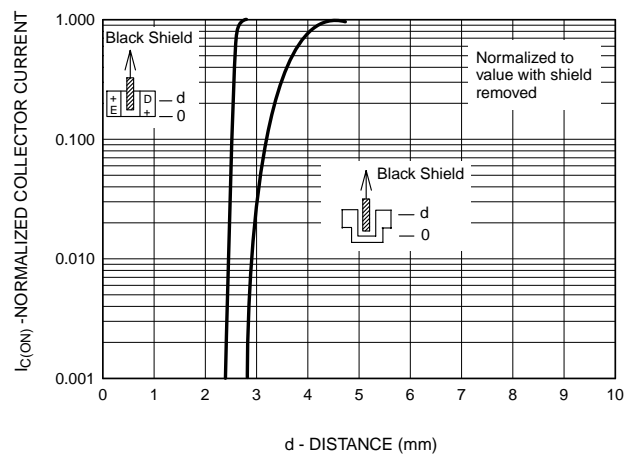
**Fig. 6 Collector Current vs. Collector to Emitter Voltage**



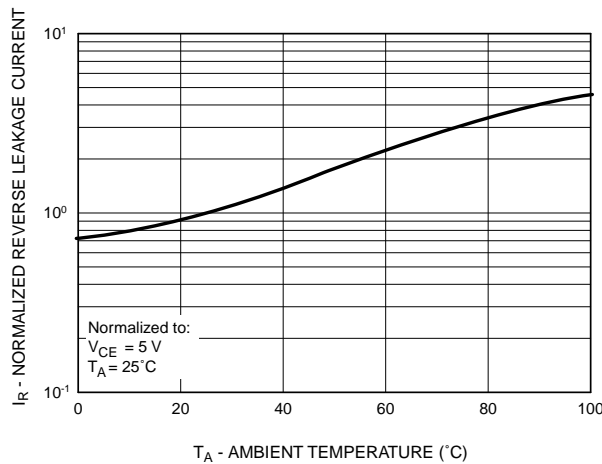
**Fig. 7 Normalized Collector Current vs. Ambient Temperature**



**Fig. 8 Normalized Collector Current vs. Shield Distance**



**Fig. 9 Normalized Reverse Leakage Current vs. Ambient Temperature**



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