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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

Safety and Insulation Ratings

As per DIN EN/IEC 60747-5-5, this optocoupler is suitable for “safe electrical insulation” only within the safety limit data. Compliance with the safety ratings shall be ensured by means of protective circuits.

Parameter	Characteristics
Installation Classifications per DIN VDE 0110/1.89 Table 1, For Rated Mains Voltage	I-IV I-III
Climatic Classification	30/110/21
Pollution Degree (DIN VDE 0110/1.89)	2
Comparative Tracking Index	175

Symbol	Parameter	Value	Unit
V_{PR}	Input-to-Output Test Voltage, Method A, $V_{IORM} \times 1.6 = V_{PR}$, Type and Sample Test with $t_m = 10$ s, Partial Discharge < 5 pC	1360	V_{peak}
	Input-to-Output Test Voltage, Method B, $V_{IORM} \times 1.875 = V_{PR}$, 100% Production Test with $t_m = 1$ s, Partial Discharge < 5 pC	1560	V_{peak}
V_{IORM}			

Note:

1. Safety limit values – maximum values allowed in the event of a failure.

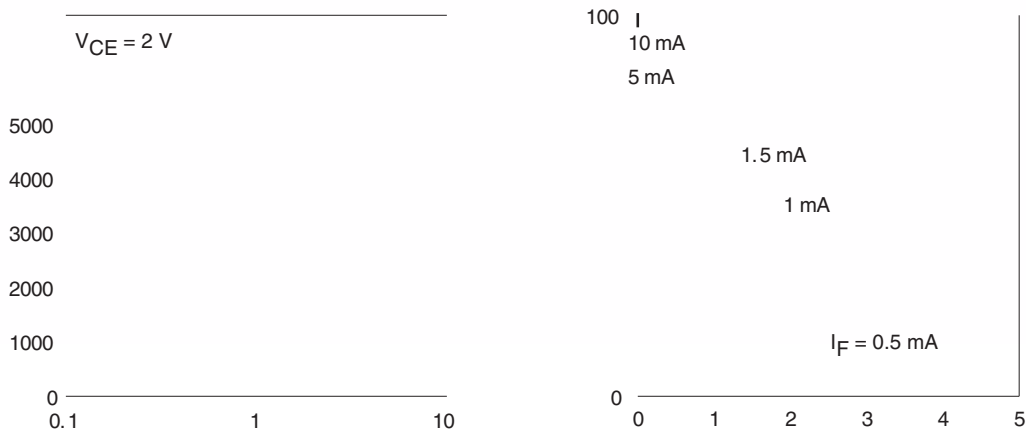
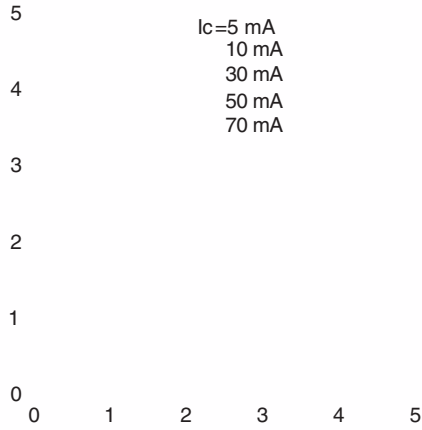
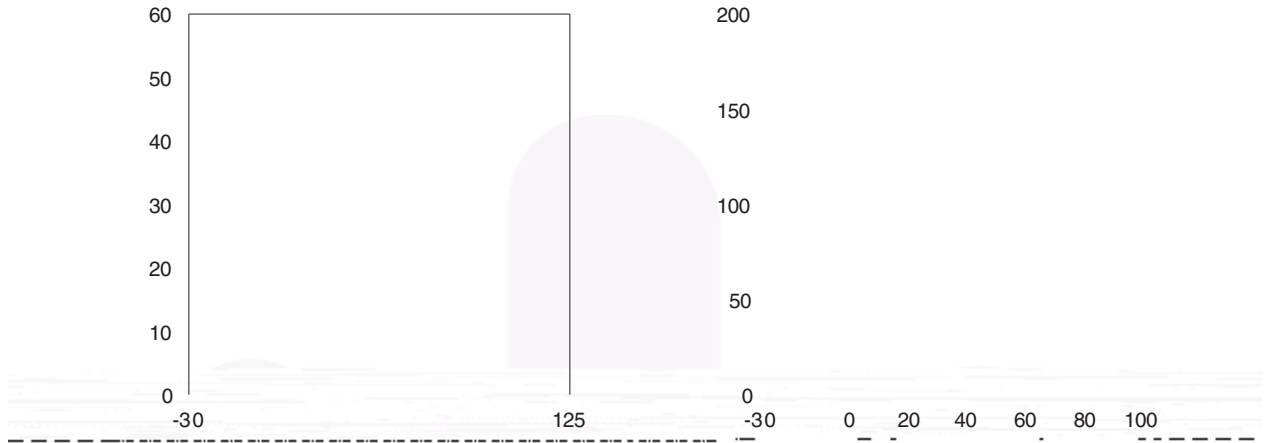
Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. $T_A = 25^\circ\text{C}$ Unless otherwise specified.

Symbol	Parameter	Value	Units
Total Device			
T_{STG}	Storage Temperature	-55 to +125	$^\circ\text{C}$
T_{OPR}	Operating Temperature	-30 to +100	$^\circ\text{C}$
T_J	Junction Temperature	-55 to +100	$^\circ\text{C}$
T_{SOL}	Lead Solder Temperature	260 for 10 seconds	$^\circ\text{C}$
P_{TOT}	Total Device Power Dissipation	200	mW
Input			
I_F	Continuous Forward Current	50	mA
V_R	Reverse Voltage	6	V
P_D	LED Power Dissipation	70	mW
Output			
V_{CEO}	Collector-Emitter Voltage	300	V
V_{ECO}	Emitter-Collector Voltage	0.1	V
I_C	Continuous Collector Current	150	mA
P_C	Collector Power Dissipation	150	mW

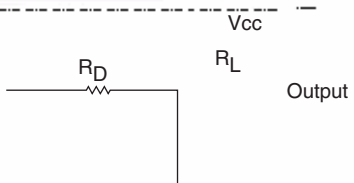
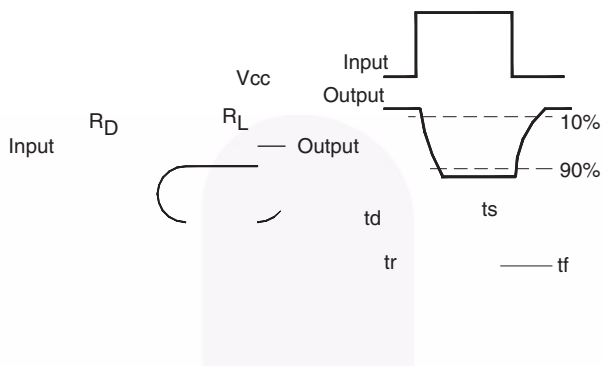
Typical Electrical/Optical Characteristic Curves

$T_A = 25^\circ\text{C}$ unless otherwise specified.





Test Circuits



Reflow Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T _{min})	150°C
Temperature Max. (T _{max})	200°C
Time (t _S) from (T _{min} to T _{max})	60–120 seconds
Ramp-up Rate (t _L to t _P)	3°C/second max.
Liquidous Temperature (T _L)	217°C
Time (t _L) Maintained Above (T _L)	60–150 seconds
Peak Body Package Temperature	260°C +0°C / -5°C
Time (t _P) within 5°C of 260°C	30 seconds
Ramp-down Rate (T _P to T _L)	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

Figure 16. Reflow Profile

Ordering Information

Part Number	Package	Packing Method
FOD852	DIP 4-Pin	Tube (100 units per tube)
FOD852S	SMT 4-Pin (Lead Bend)	Tube (100 units per tube)
FOD852SD	SMT 4-Pin (Lead Bend)	Tape and Reel (1,000 units per reel)
FOD852300	DIP 4-Pin, DIN EN/IEC60747-5-5 option	Tube (100 units per tube)
FOD8523S	SMT 4-Pin (Lead Bend), DIN EN/IEC60747-5-5 option	Tube (100 units per tube)
FOD8523SD	SMT 4-Pin (Lead Bend), DIN EN/IEC60747-5-5 option	Tape and Reel (1,000 units per reel)
FOD852300W	DIP 4-Pin, 0.4" Lead Spacing, DIN EN/IEC60747-5-5 option	Tube (100 units per tube)

Marking Information

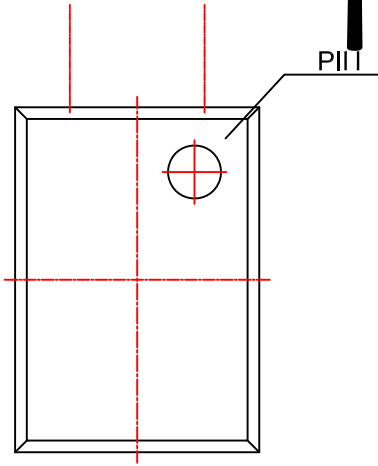


Carrier Tape Specifications



Figure 17. Carrier Tape Specification

Symbol	Description	Dimensions in mm (inches)
W	Tape wide	16 ± 0.3 (0.63)
P ₀	Pitch of sprocket holes	4 ± 0.1 (0.15)
F	Distance of compartment	7.5 ± 0.1 (0.295)
P ₂		2 ± 0.1 (0.079)
P ₁	Distance of compartment to compartment	12 ± 0.1 (0.472)
A0	Compartment	10.45 ± 0.1 (0.411)
B0		5.30 ± 0.1 (0.209)
K0		4.25 ± 0.1 (0.167)



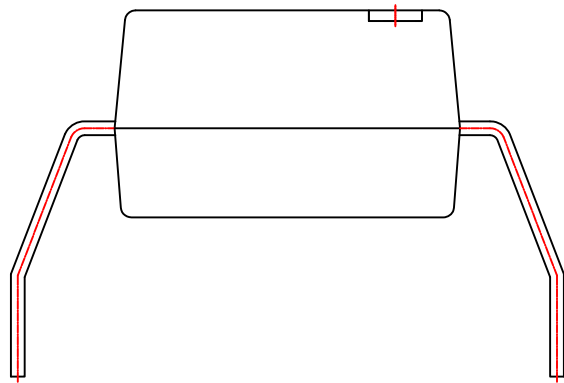
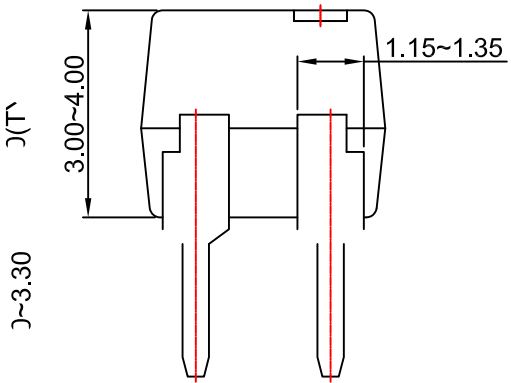
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A) NO STAN

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NOTES:

A) NO STANDARD APPLIES TO THIS PACKAGE

EXCLUSIVE OF BURRS,
MOLD FLASH, AND TIE BAR EXTRUSION
REV. 1




NOTE

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FAWING FILENAME AND REVISION: MKT-N04Ar

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