Single Channel, AC/DC Sen ing In , Pho o an i o O oco le In Half-Pi ch Mini-Fla 4-Pin Package

FODM214, FODM217 Se ie

The FODM217 series consist of a gallium arsenide infrared emitting diode driving a phototransistor. The FODM214 series consist of two gallium arsenide infrared emitting diodes connected in inverse parallel for AC operation. Both were built in a compact, half–pitch, mini–flat, 4–pin package. The lead pitch is 1.27 mm.

Features

- Current Transfer Ratio Ranges from 20 to 600% at $I_F = \pm 1$ mA, $V_{CE} = 5$ V, $T_A = 25°C$
  - FODM214 – 20 to 400%
  - FODM214A – 50 to 250%

  at $I_F = 5$ mA, $V_{CE} = 5$ V, $T_A = 25°C$
  - FODM217A – 80 to 160%
  - FODM217B – 130 to 260%
  - FODM217C – 200 to 400%
  - FODM217D – 300 to 600%
- Safety and Regulatory Approvals:
  - UL1577, 3750 VAC_{RMS} for 1 min
  - DIN EN/IEC60747–5–

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Publication Order Number:
FODM214/D

ELECTRICAL CHARACTERISTICS T_A = 25°C unless otherwise specified

Symbol	Parameter	Device	Conditions	Min.	Typ.	Max.	Units
EMITTER							
V_F	Forward Voltage	FODM214	I_F = ±20 mA		1.2	1.4	V
		FODM217	I_F = 20 mA				
I_R	Reverse Current	FODM217	V_R = 4 V			10	μA
C_T	Terminal Capacitance	All	V = 0 V, f = 1 kHz		30	250	pF
DETECTOR							
BV_{CEO}	Collector–Emitter Breakdown Voltage	All					

TYPICAL CHARACTERISTICS

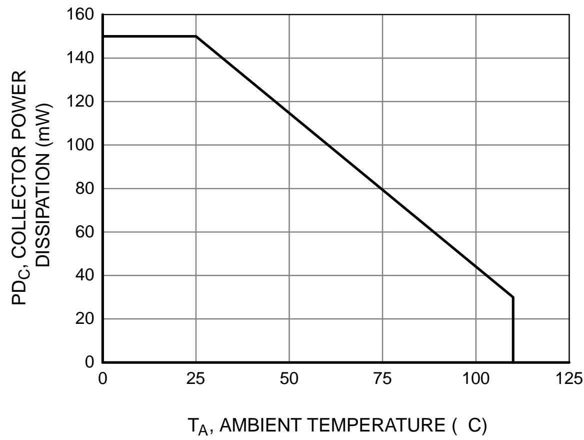


Figure 1. Collector Power Dissipation vs. Ambient Temperature

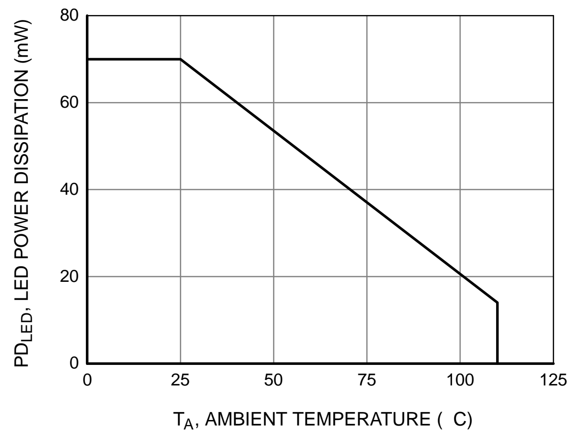


Figure 2. LED Power Dissipation vs. Ambient Temperature

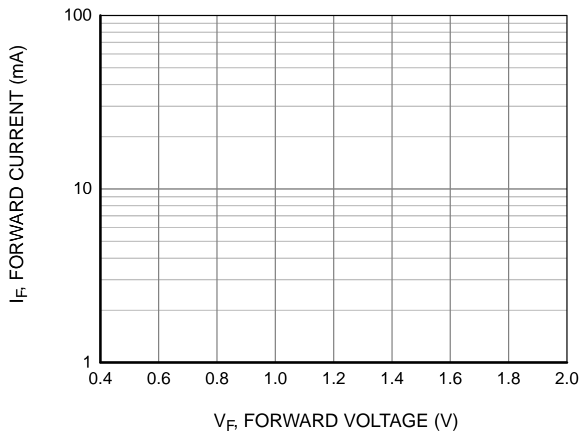


Figure 3. Forward Current vs. Forward Voltage

Figure 4. Forward Voltage Temperature Coefficient vs. Forward Current

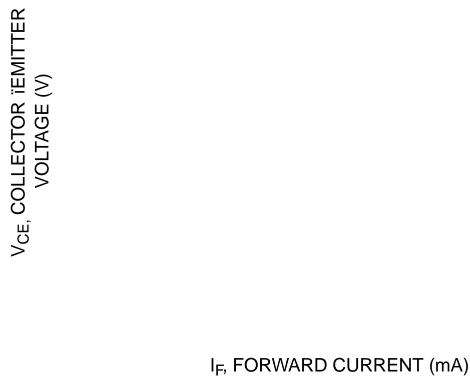


Figure 5. Collector Emitter Voltage vs. Forward Current

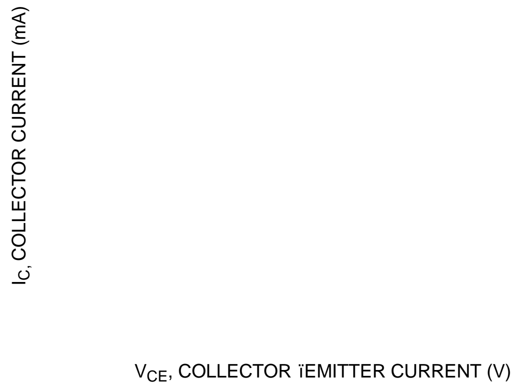


Figure 6. Collector Current vs. Collector ïEmitter Voltage

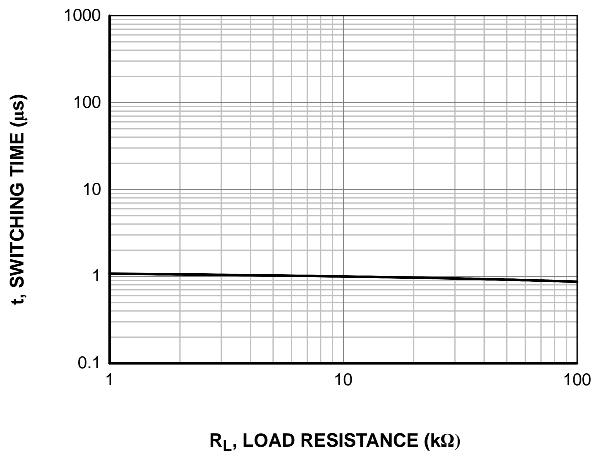


Figure 13. Switching Time vs. Load Resistance

T_A, AMBIENT REMPERATURE (°C)

Figure 14. Switching Time vs. Ambient Temperature

REFLOW PROFILE

Figure 16. Reflow Profile

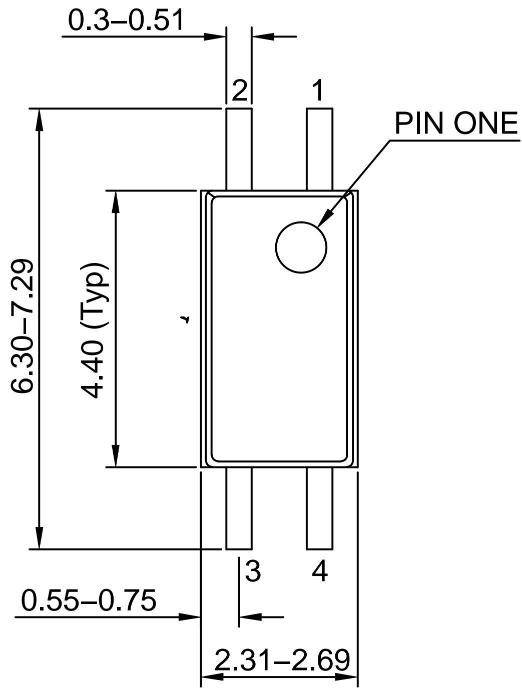
Pro Þle Freature	Pb ïFree Assembly Pro Þle
Temperature Min. (Tsmin)	150°C
Temperature Max. (Tsmax)	200°C
[illegible]	60–120 seconds
[illegible]	3°C/second max.
[illegible]ous Temperature (T_L)	217°C
[illegible] (t_L) Maintained Above (T_L)	60–150 seconds
[illegible] Body Package Temperature	260°C +0°C / –5°C
[illegible] (t_P) within 5°C of 260°C	[illegible]
[illegible] ïdown Rate (T_P to T_L)	[illegible]
[illegible] 25°C to Peak Temperature	8 minutes [illegible]

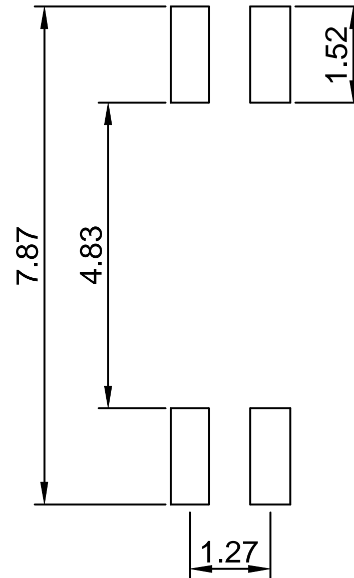
[illegible]ERING INFORMATION (Note 5)

Package

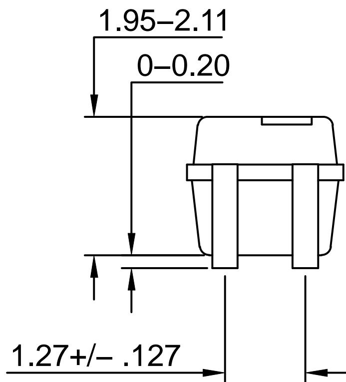
PACKAGE DIMENSIONS

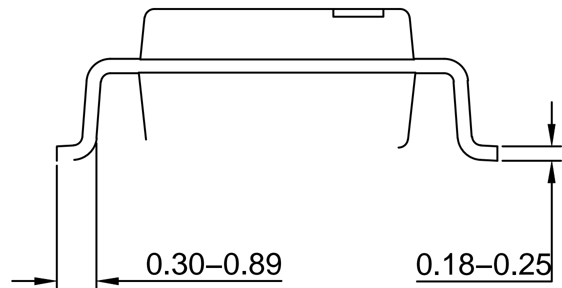
MFP4 2.5x4.4, 1.27P
CASE 100AL
ISSUE O





LAND PATTERN RECOMMENDATION





NOTES:

A) NO STANDARD APPLIES TO THIS PACKAGE
B) ALL DIMENSIONS ARE IN MILLIMETERS.
C) DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSION