



**THE DATASHEET OF
IMT4-7-F**





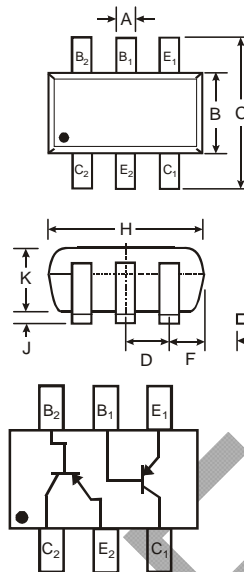
DUAL PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

Features

- Epitaxial Planar Die Construction
- Complementary NPN Type Available (IMX8)
- Small Surface Mount Package
- **Lead Free/RoHS Compliant (Note 3)**
- "Green" Device, Note 4 and 5

Mechanical Data

- Case: SOT-26
- Case Material: Molded Plastic, "Green" Molding Compound, Note 5. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Connections: See Diagram
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Copper leadframe).
- Marking Information: KX7 - See Page 3
- Ordering & Date Code Information: See Page 3
- Weight: 0.016 grams (approximate)



| SOT-26 | | | |
|----------|-------|------|------|
| Dim | Min | Max | Typ |
| A | 0.35 | 0.50 | 0.38 |
| B | 1.50 | 1.70 | 1.60 |
| C | 2.70 | 3.00 | 2.80 |
| D | — | — | 0.95 |
| F | — | — | 0.55 |
| H | 2.90 | 3.10 | 3.00 |
| J | 0.013 | 0.10 | 0.05 |
| K | 1.00 | 1.30 | 1.10 |
| L | 0.35 | 0.55 | 0.40 |
| M | 0.10 | 0.20 | 0.15 |
| α | 0° | 8° | — |

All Dimensions in mm

Maximum Ratings @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|--|-----------------------------------|-------------|------|
| Collector-Base Voltage | V _{CB0} | -120 | V |
| Collector-Emitter Voltage | V _{CE0} | -120 | V |
| Emitter-Base Voltage | V _{EBO} | -5.0 | V |
| Collector Current - Continuous | I _C | -50 | mA |
| Power Dissipation (Note 1) | P _d | 225 | mW |
| Thermal Resistance, Junction to Ambient (Note 1) | R _{θJA} | 555 | °C/W |
| Operating and Storage Temperature Range | T _j , T _{STG} | -55 to +150 | °C |

Electrical Characteristics @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|--------------------------------------|----------------------|------|-----|------|------|---|
| OFF CHARACTERISTICS (Note 2) | | | | | | |
| Collector-Base Breakdown Voltage | V _{(BR)CBO} | -120 | — | — | V | I _C = -50μA |
| Collector-Emitter Breakdown Voltage | V _{(BR)CEO} | -120 | — | — | V | I _C = -1.0mA |
| Emitter-Base Breakdown Voltage | V _{(BR)EBO} | -5.0 | — | — | V | I _E = -50μA |
| Collector Cutoff Current | I _{CBO} | — | — | -0.5 | μA | V _{CB} = -100V |
| Emitter Cutoff Current | I _{EBO} | — | — | -0.5 | μA | V _{EB} = -4.0V |
| ON CHARACTERISTICS (Note 2) | | | | | | |
| DC Current Gain | h _{FE} | 180 | — | 820 | — | I _C = -2.0mA, V _{CE} = -6.0V |
| Collector-Emitter Saturation Voltage | V _{CE(SAT)} | — | — | -0.5 | V | I _C = -10mA, I _B = -1.0mA |
| SMALL SIGNAL CHARACTERISTICS | | | | | | |
| Current Gain-Bandwidth Product | f _T | — | 140 | — | MHz | V _{CE} = -12V, I _C = -2.0mA, f = 100MHz |

- Notes:
1. Device mounted on FR-5 PCB 1.0 x 0.75 x 0.062 inch pad layout as shown on Diodes Inc. suggested pad layout AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>. 200mW per element must not be exceeded.
 2. Short duration pulse test used to minimize self-heating effect.
 3. No purposefully added lead.
 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 5. Product manufactured with Date Code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to Date Code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

OBSOLETE - PART DISCONTINUED

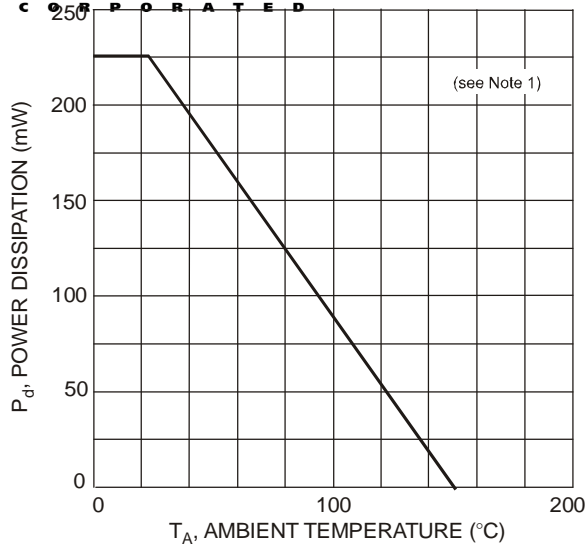


Fig. 1, Power Derating Curve

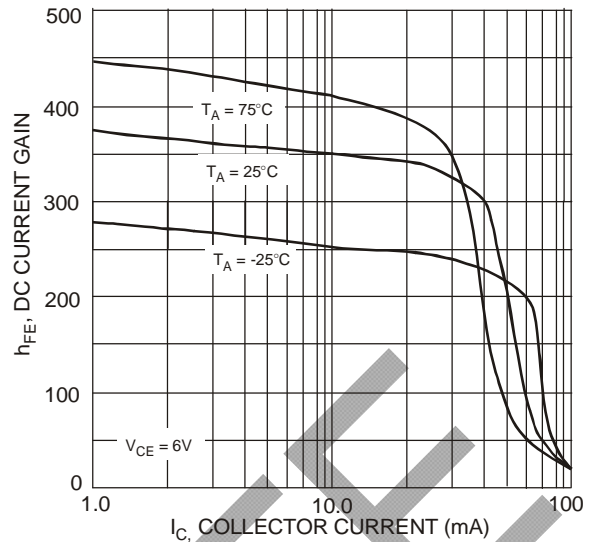


Fig. 2 Typical DC Current Gain vs. Collector Current

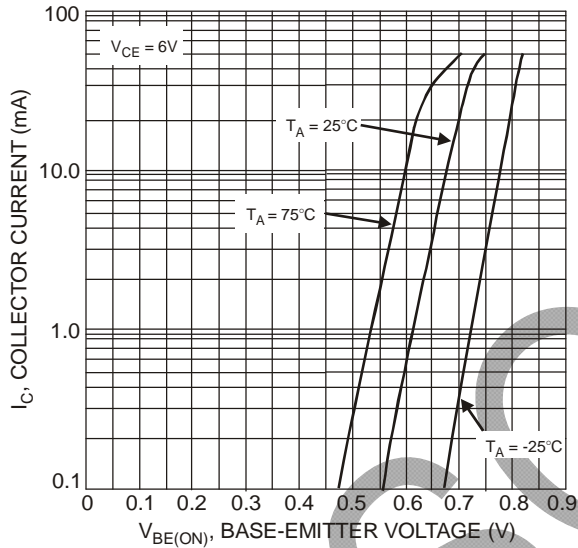


Fig. 3 Typical Collector Current vs. Base-Emitter Voltage

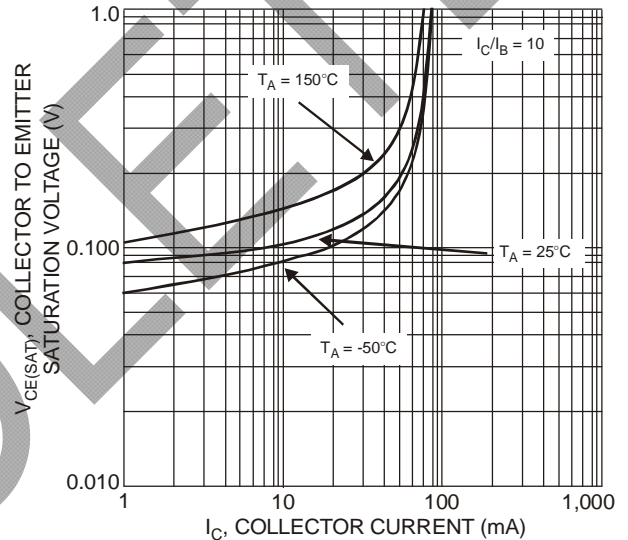


Fig. 4 Typical Collector-Emitter Voltage vs. Collector Current

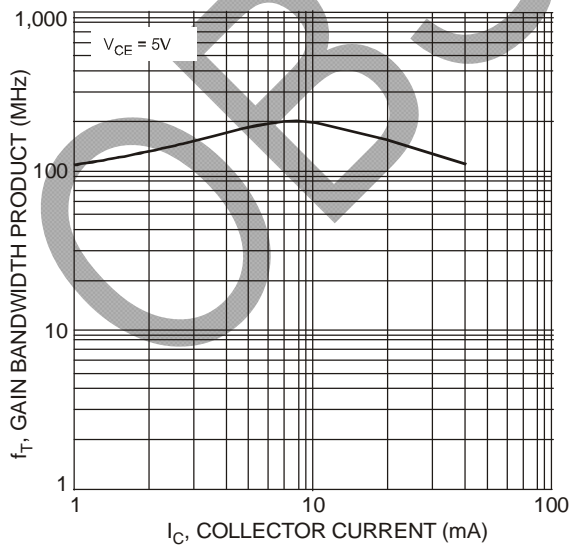


Fig. 5 Typical Gain Bandwidth Product vs. Collector Current

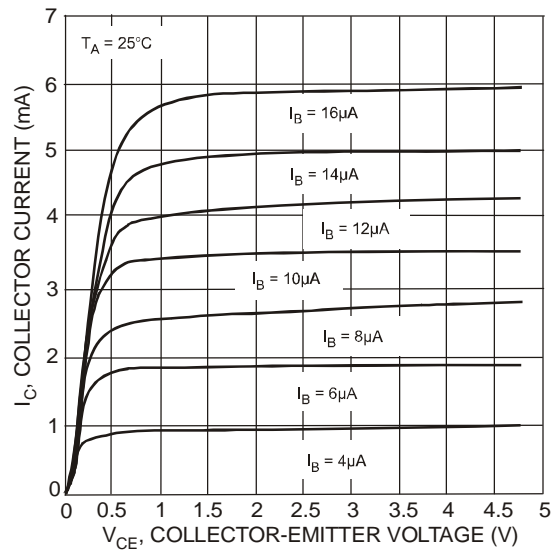


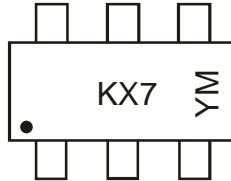
Fig. 6 Typical Collector Current vs. Collector-Emitter Voltage

Ordering Information (Note 5 & 6)

| Device | Packaging | Shipping |
|----------|-----------|------------------|
| IMT4-7-F | SOT-26 | 3000/Tape & Reel |

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



KX7 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year ex: T = 2006
 M = Month ex: 9 = September
 YM = Date Code Marking

Date Code Key

| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|------|------|------|------|------|------|------|------|------|------|------|------|
| Code | N | P | R | S | T | U | V | W | X | Y | Z |

| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |

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OBSOLETE – PART DISCONTINUED

OBSOLETE

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