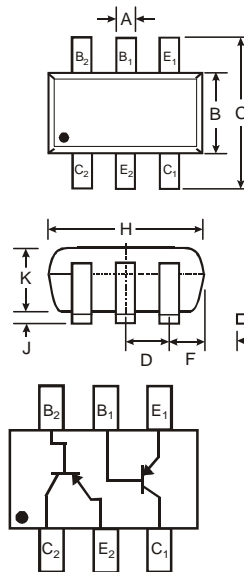


### Features

- 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
$\alpha$	0°	8°	—
All Dimensions in mm			

### Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	-120	V
Collector-Emitter Voltage	$V_{CEO}$	-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)	$R_{\theta JA}$	555	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-55 to +150	$^\circ\text{C}$

### Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 2)</b>						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-120	—	—	V	$I_C = -50\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-120	—	—	V	$I_C = -1.0\text{mA}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5.0	—	—	V	$I_E = -50\mu\text{A}$
Collector Cutoff Current	$I_{CBO}$	—	—	-0.5	$\mu\text{A}$	$V_{CB} = -100\text{V}$
Emitter Cutoff Current	$I_{EBO}$	—	—	-0.5	$\mu\text{A}$	$V_{EB} = -4.0\text{V}$
<b>ON CHARACTERISTICS (Note 2)</b>						
DC Current Gain	$h_{FE}$	180	—	820	—	$I_C = -2.0\text{mA}, V_{CE} = -6.0\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	—	-0.5	V	$I_C = -10\text{mA}, I_B = -1.0\text{mA}$
<b>SMALL SIGNAL CHARACTERISTICS</b>						
Current Gain-Bandwidth Product	$f_T$	—	140	—	MHz	$V_{CE} = -12\text{V}, I_C = -2.0\text{mA}, f = 100\text{MHz}$

- 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](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.

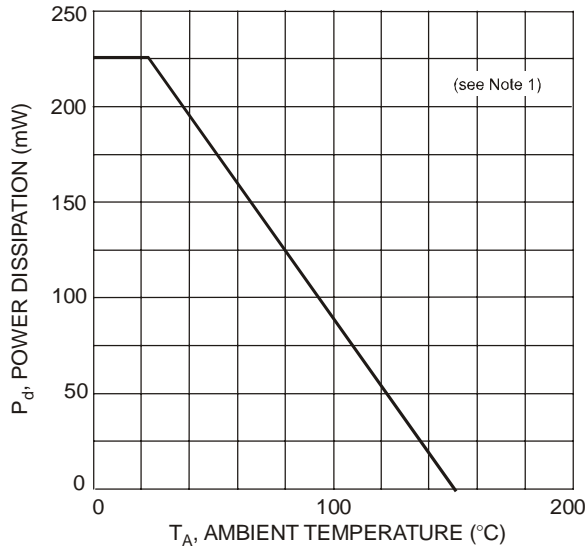


Fig. 1, Power Derating Curve

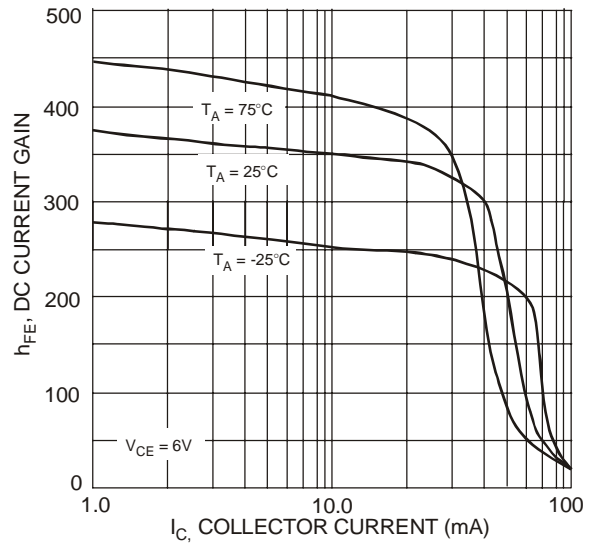


Fig. 2 Typical DC Current Gain vs. Collector Current

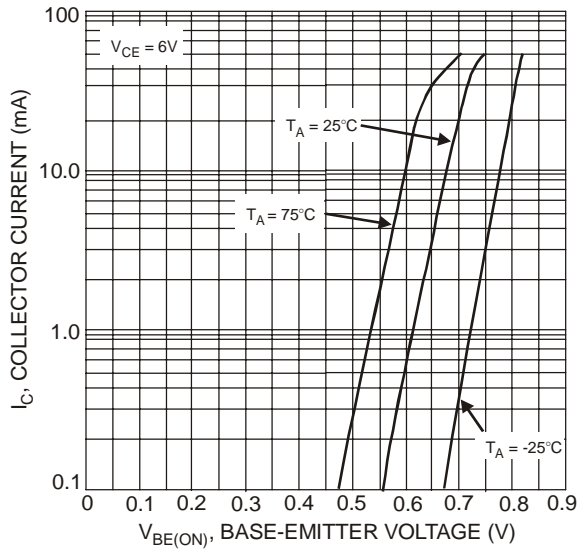


Fig. 3 Typical Collector Current vs. Base-Emitter Voltage

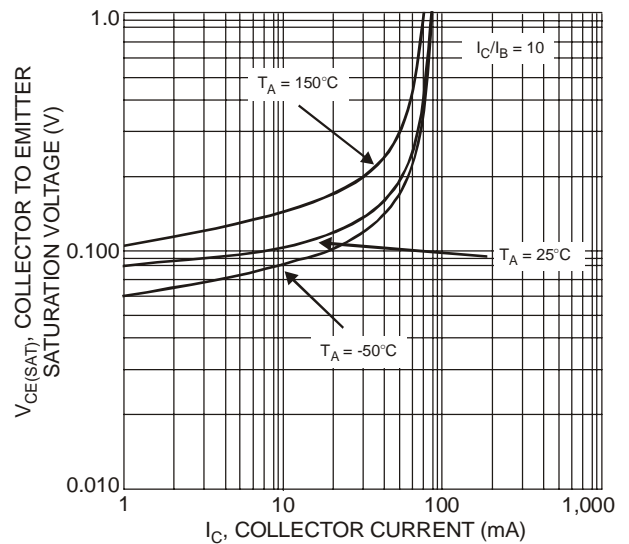


Fig. 4 Typical Collector-Emitter Voltage vs. Collector Current

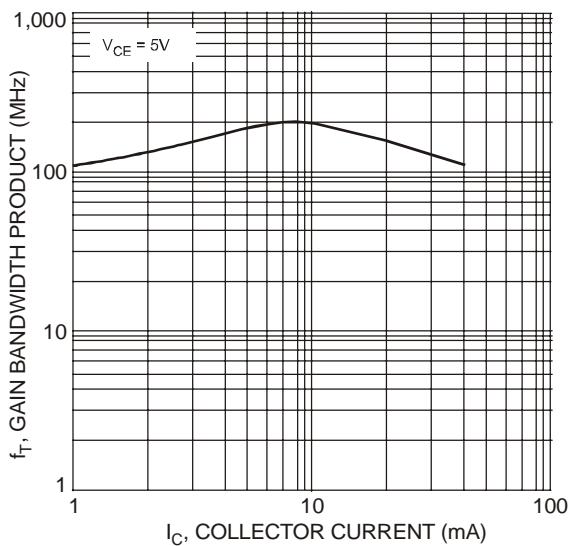


Fig. 5 Typical Gain Bandwidth Product vs. Collector Current

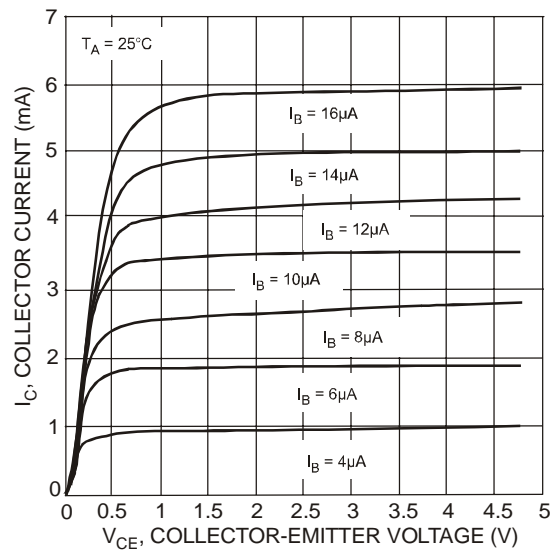


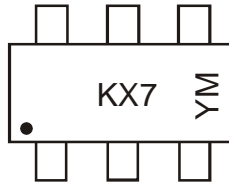
Fig. 6 Typical Collector Current vs. Collector-Emitter Voltage

## 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

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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