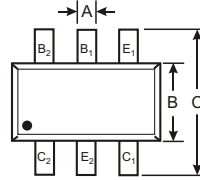


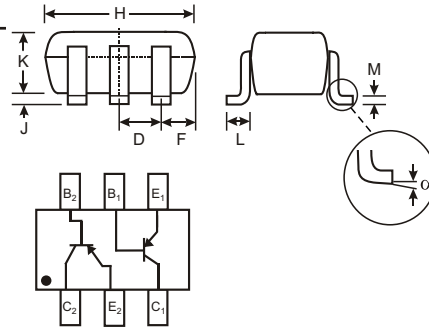
**Features**

- Epitaxial Planar Die Construction
- Complementary NPN Type Available (IMX8)
- Small Surface Mount Package
- Available in Lead Free/RoHS Compliant Version (Note 3)



**Mechanical Data**

- Case: SOT-26
- Case Material: Molded Plastic. 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
- Also Available in Lead Free Plating (Matte Tin Finish annealed over Copper leadframe). Please see Ordering Information, Note 5, on Page 2
- Marking: KX7, See Page 2
- Ordering & Date Code Information: See Page 2
- 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<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	-120	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-120	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5.0	V
Collector Current - Continuous	I <sub>C</sub>	-50	mA
Power Dissipation (Note 1)	P <sub>d</sub>	225	mW
Thermal Resistance, Junction to Ambient (Note 1)	R <sub>θJA</sub>	555	°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +150	°C

**Electrical Characteristics** @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 2)</b>						
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	-120	—	—	V	I <sub>C</sub> = -50μA
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	-120	—	—	V	I <sub>C</sub> = -1.0mA
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	-5.0	—	—	V	I <sub>E</sub> = -50μA
Collector Cutoff Current	I <sub>CBO</sub>	—	—	-0.5	μA	V <sub>CB</sub> = -100V
Emitter Cutoff Current	I <sub>EBO</sub>	—	—	-0.5	μA	V <sub>EB</sub> = -4.0V
<b>ON CHARACTERISTICS (Note 2)</b>						
DC Current Gain	h <sub>FE</sub>	180	—	820	—	I <sub>C</sub> = -2.0mA, V <sub>CE</sub> = -6.0V
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	—	—	-0.5	V	I <sub>C</sub> = -10mA, I <sub>B</sub> = -1.0mA
<b>SMALL SIGNAL CHARACTERISTICS</b>						
Current Gain-Bandwidth Product	f <sub>T</sub>	—	140	—	MHz	V <sub>CE</sub> = -12V, I <sub>C</sub> = -2.0mA, f = 100MHz

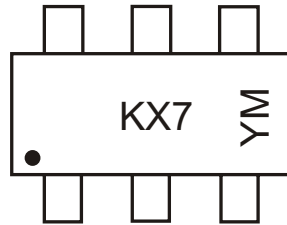
- Notes:
1. Device mounted on FR-5 PCB 1.0 x 0.75 x 0.062 inch pad layout as shown on Diodes Inc. suggested pad layout AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>. 200mW per element must not be exceeded.
  2. Short duration pulse test used to minimize self-heating effect.
  3. No purposefully added lead.

**Ordering Information** (Note 4)

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

- Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
 5. For Lead Free/RoHS Compliant version part number, please add "-F" suffix to the part number above. Example: IMT4-7-F.

**Marking Information**



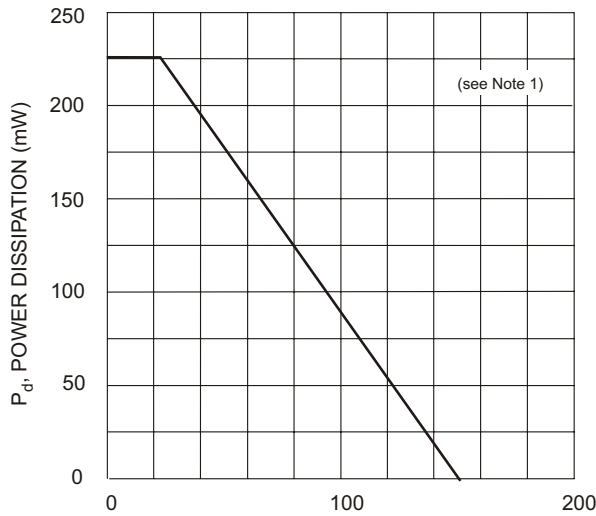
KX7 = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year ex: N = 2002  
 M = Month ex: 9 = September

Date Code Key

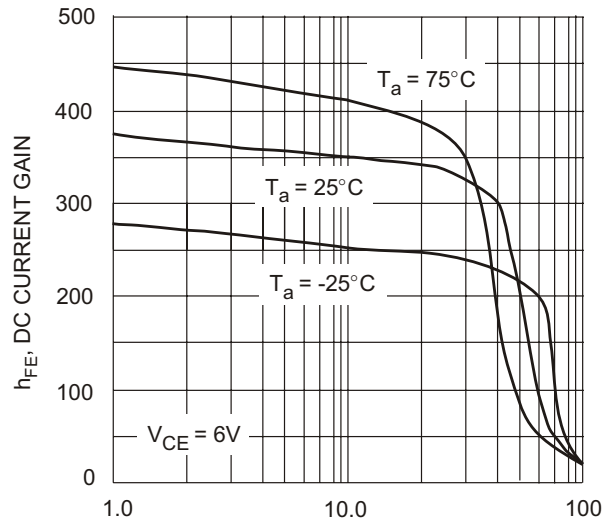
Year	2002	2003	2004	2005	2006	2007	2008	2009
Code	N	P	R	S	T	U	V	W

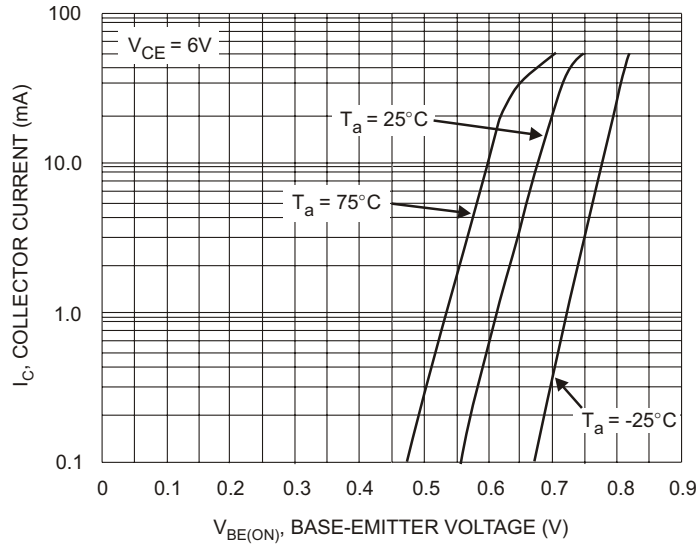
Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D



$T_A$ , AMBIENT TEMPERATURE (°C)  
 Fig. 1, Power Derating Curve

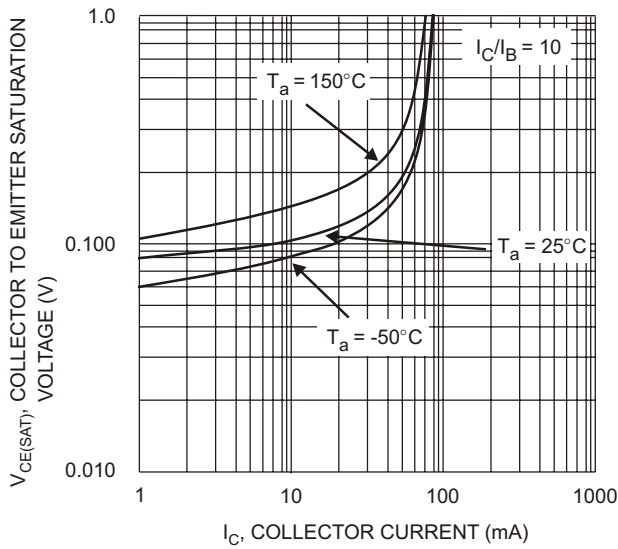


$I_C$ , COLLECTOR CURRENT (mA)  
 Fig. 2 Typical DC Current Gain vs. Collector Current



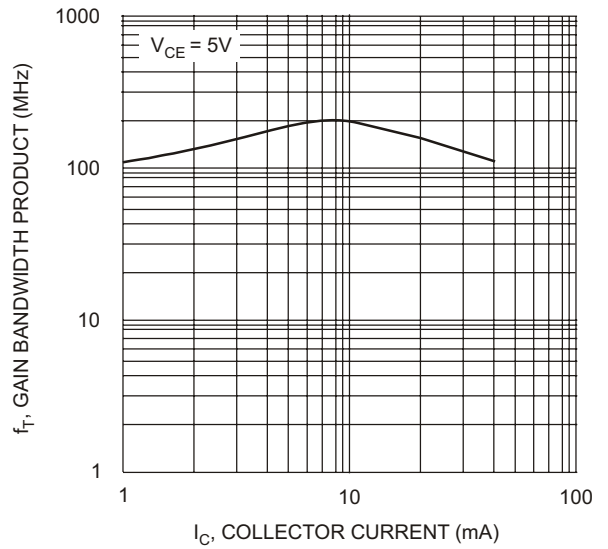
$V_{BE(ON)}$ , BASE-EMITTER VOLTAGE (V)

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



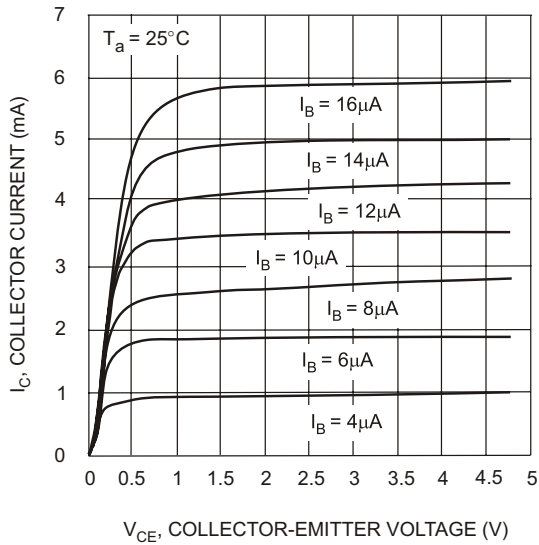
$I_C$ , COLLECTOR CURRENT (mA)

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



$I_C$ , COLLECTOR CURRENT (mA)

Fig. 5 Typical Gain Bandwidth Product vs. Collector Current



$V_{CE}$ , COLLECTOR-EMITTER VOLTAGE (V)

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