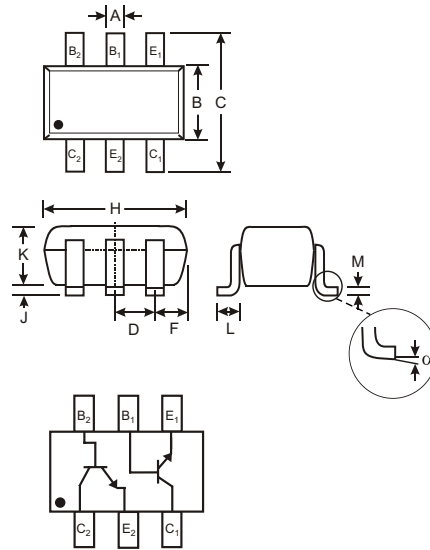


### Features

- Epitaxial Planar Die Construction
- Complementary PNP Type Available (IMT4)
- Small Surface Mount Package
- Also Available in Lead Free Version

### Mechanical Data

- Case: SOT-26, Molded Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 4, on Page 2
- Terminal Connections: See Diagram
- Marking (See Page 2): KX8
- Ordering & Date Code Information: See Page 2
- Weight: 0.016 grams (approx.)



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	IMX8	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)	$P_d$	300	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Operating and Storage and 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	$V_{CE} = 12\text{V}, I_E = -2.0\text{mA}, f = 100\text{MHz}$

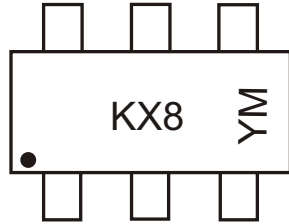
- Notes: 1. Device mounted on FR-5 PCB 1.0 x 0.75 x 0.062 inch pad layout as shown on Diodes Inc. suggested pad layout AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>. 200mW per element must not be exceeded.  
 2. Short duration test pulse used to minimize self-heating effect.

**Ordering Information** (Note 3)

Device	Packaging	Shipping
IMX8-7	SOT-26	3000/Tape & Reel

- Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
 4. For Lead Free version (with Lead Free terminal finish) part number, please add "-F" suffix to part number above.  
 Example: IMX8-7-F.

**Marking Information**



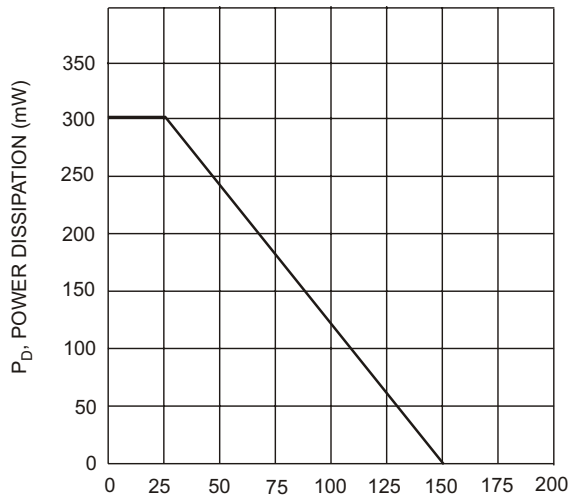
KX8 = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year ex: N = 2002  
 M = Month ex: 9 = September

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<sub>A</sub>, AMBIENT TEMPERATURE (°C)  
 Fig. 1. Max Power Dissipation vs Ambient Temperature

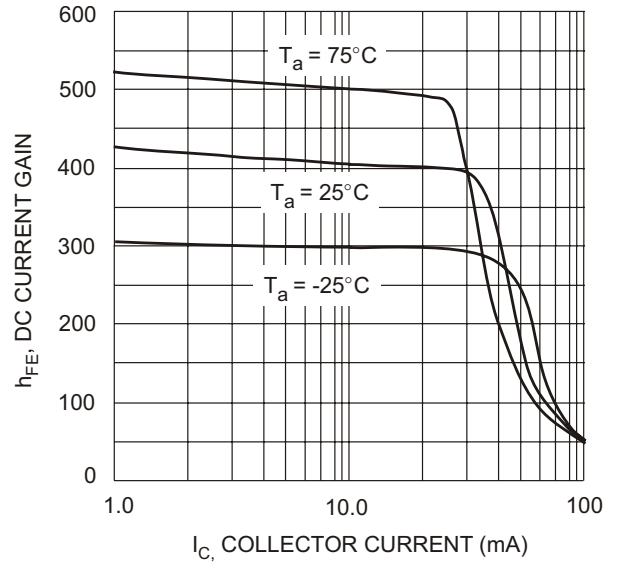
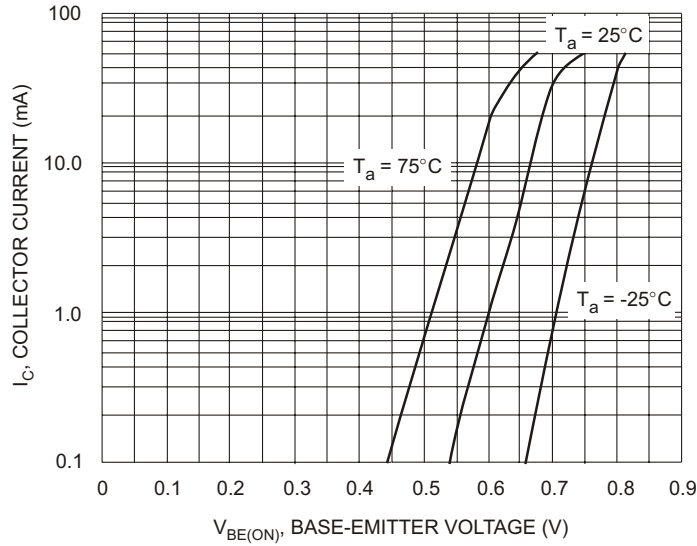
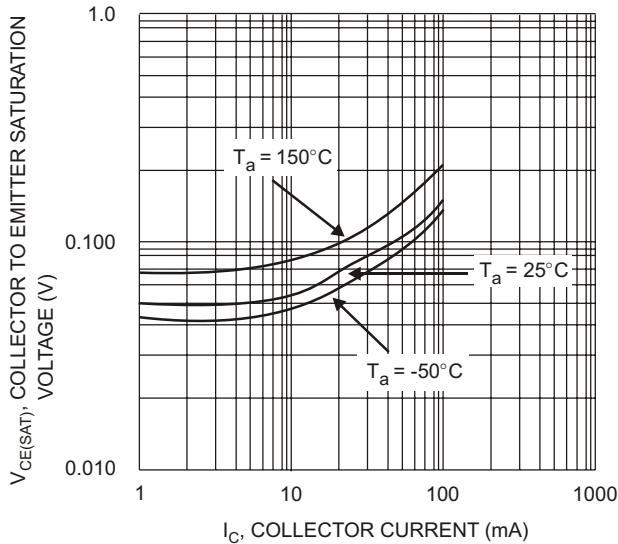


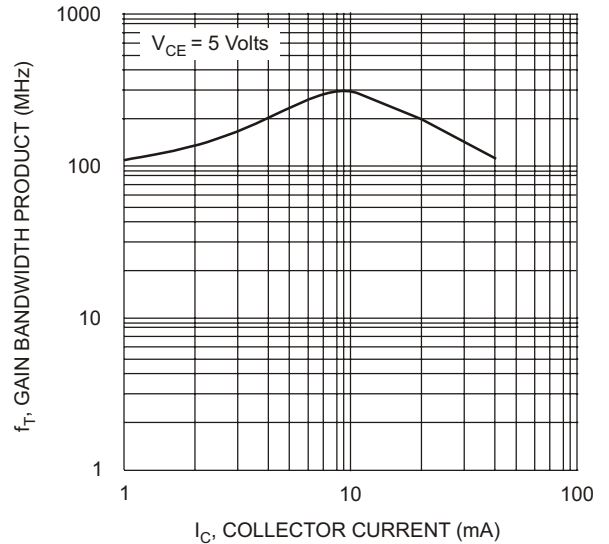
Fig. 2 Typical DC Current Gain vs. Collector Current



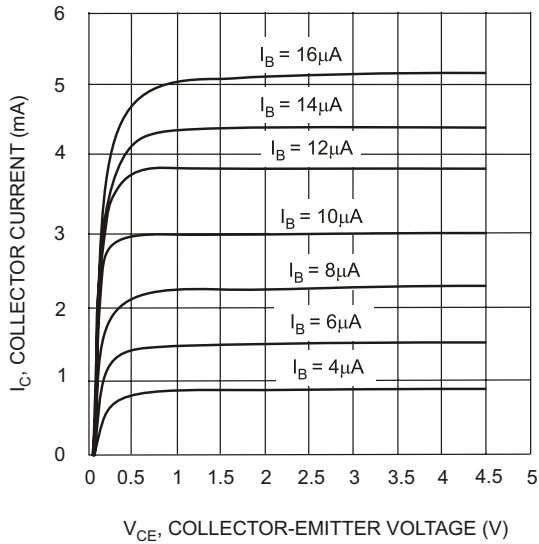
$V_{BE(ON)}$ , BASE-EMITTER VOLTAGE (V)  
Fig. 3 Typical Collector Current vs. Base-Emitter Voltage



$I_C$ , 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