DUAL NPN SMALL SIGNAL SURFACE MOUNT TRANSISTOR

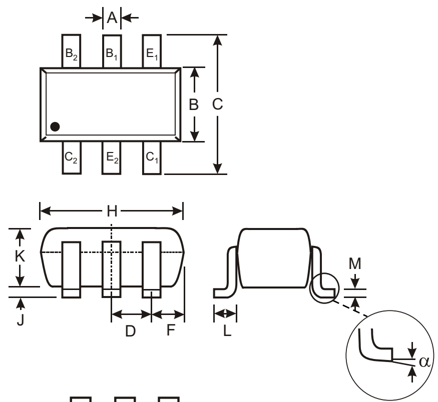
NEW PRODUCT

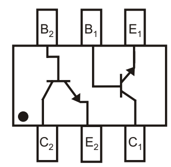
Features

- 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
α	0°	8°	—
All Dimensions in mm			

Maximum Ratings @ T_A = 25°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	°C/W
Operating and Storage and 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_E = -2.0mA, f = 100MHz

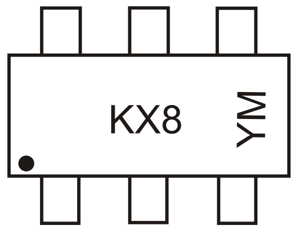
Notes: 1. Device mounted on FR-5 PCB 1.0 x 0.75 x 0.062 inch pad layout as shown on Diodes Inc. suggested pad layout AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf. 200mW per element must not be exceeded.
2. Short duration test pulse used to minimize self-heating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

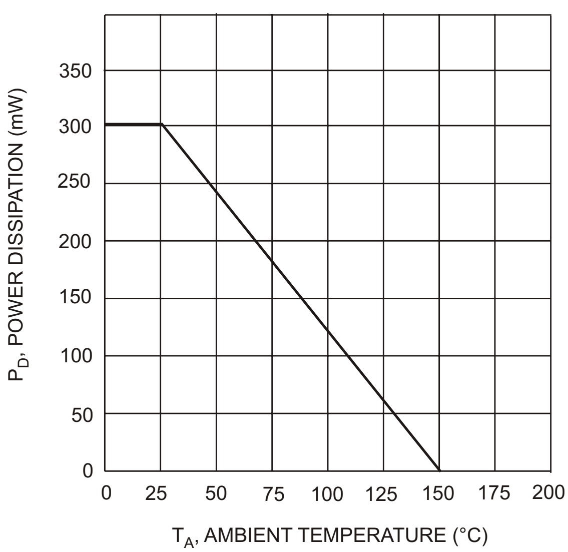


Fig. 1, Max Power Dissipation vs Ambient Temperature

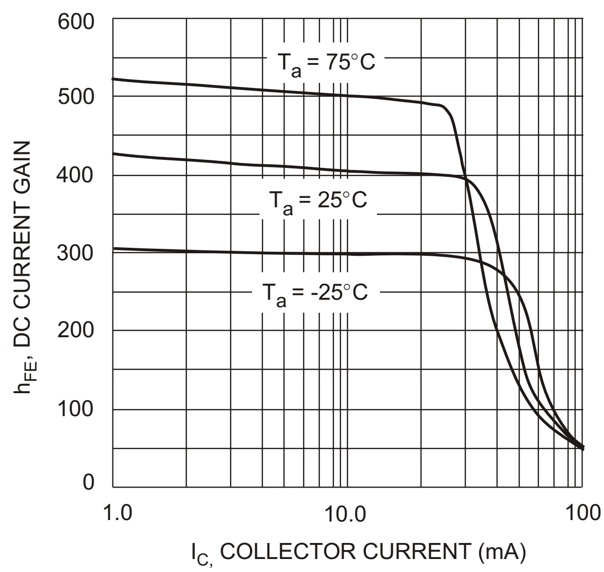


Fig. 2 Typical DC Current Gain vs. Collector Current

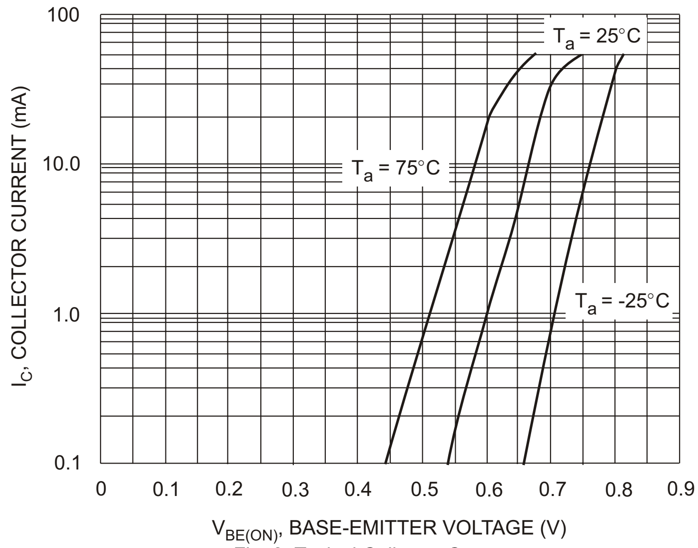


Fig. 3 Typical Collector Current vs. Base-Emitter Voltage

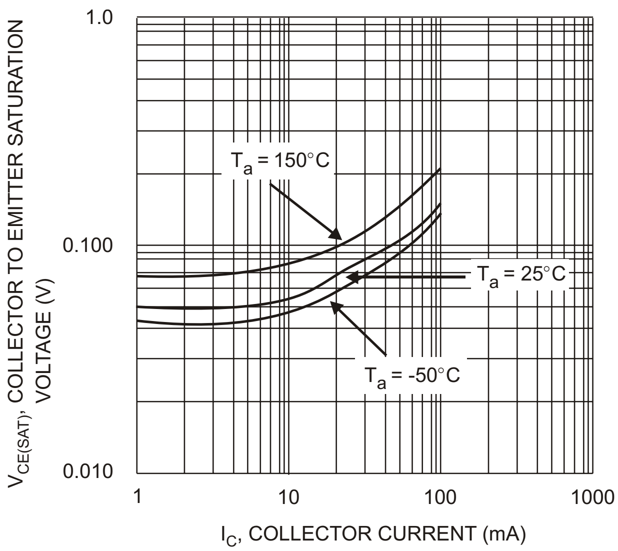


Fig. 4 Typical Collector-Emitter Voltage vs. Collector Current

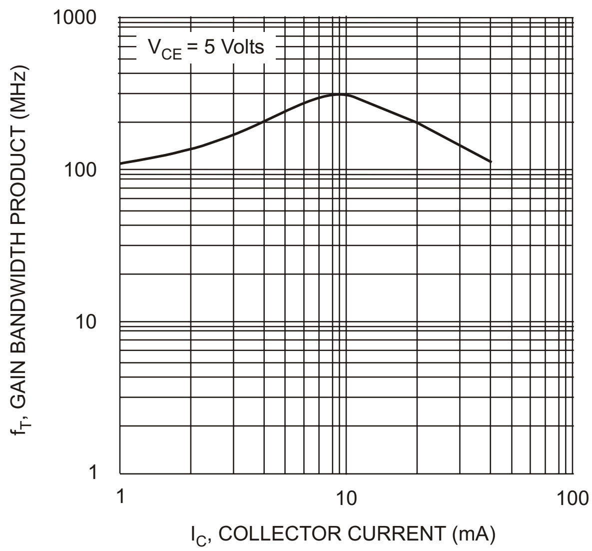


Fig. 5 Typical Gain Bandwidth Product vs. Collector Current

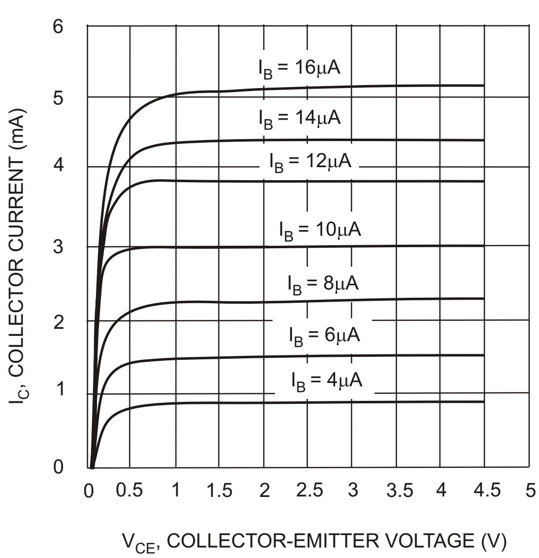


Fig. 6 Typical Collector Current vs. Collector-Emitter Voltage

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