



# <u>IMX8</u>

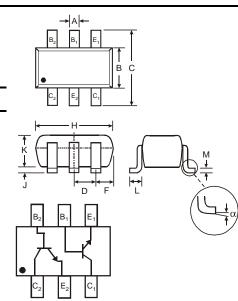
DUAL NPN SMALL SIGNAL SURFACE MOUNT TRANSISTOR

#### Features

- Epitaxial Planar Die Construction
- Complementary PNP Type Available (IMT4)
- 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: KX8, See Page 3
- Ordering & Date Code Information: See Page 3
- Weight: 0.016 grams (approximate)



	SO	Г-26	
Dim	Min	Max	Тур
Α	0.35	0.50	0.38
В	1.50	1.70	1.60
С	2.70	3.00	2.80
D	_	_	0.95
F	_	_	0.55
Н	2.90	3.10	3.00
J	0.013	0.10	0.05
к	1.00	1.30	1.10
L	0.35	0.55	0.40
М	0.10	0.20	0.15
α	0°	8°	_
All C	Dimens	ions 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	Ι <sub>C</sub>	50	mA
Power Dissipation (Note 1)	Pd	300	mW
Thermal Resistance, Junction to Ambient (Note 1)	R <sub>0</sub> JA	417	°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	Тур	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)						•
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	120		_	V	$I_{C} = 50 \mu A$
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	120		_	V	$I_C = 1.0 \text{mA}$
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	5.0	_	_	V	I <sub>E</sub> = 50μA
Collector Cutoff Current	ICBO	_		0.5	μA	V <sub>CB</sub> = 100V
Emitter Cutoff Current	I <sub>EBO</sub>	_		0.5	μA	$V_{EB} = 4.0 V$
ON CHARACTERISTICS (Note 2)						•
DC Current Gain	h <sub>FE</sub>	180	_	820	_	$I_{C} = 2.0 \text{mA}, V_{CE} = 6.0 \text{V}$
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	_	_	0.5	V	$I_{C} = 10 \text{mA}, I_{B} = 1.0 \text{mA}$
SMALL SIGNAL CHARACTERISTICS						•
Current Gain-Bandwidth Product	f⊤	_	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.

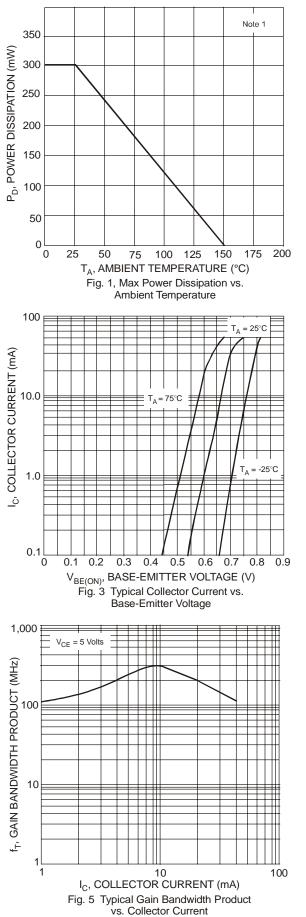
2. Short duration pulse test used to minimize self-heating effect.

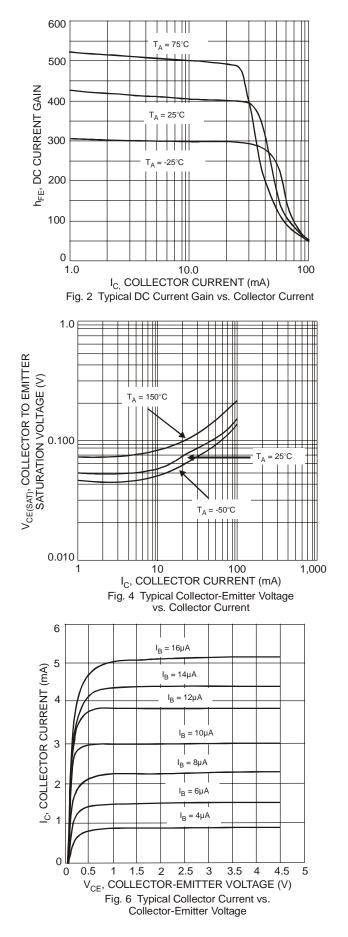
3. No purposefully added lead.

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.







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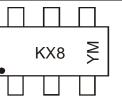


#### Ordering Information (Note 5 & 6 )

Device	Packaging	Shipping
IMX8-7-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**



 $\begin{array}{l} \mathsf{KX8} = \mathsf{Product Type Marking Code} \\ \mathsf{YM} = \mathsf{Date Code Marking} \\ \mathsf{Y} = \mathsf{Year ex: T} = 2006 \\ \mathsf{M} = \mathsf{Month ex: 9} = \mathsf{September} \end{array}$ 

Date Code Key

Year	2002	2003	2004	2005	5 200	06 20	007 2	800	2009	2010	2011	2012
Code	N	Р	R	S	Т		U	V	W	Х	Y	Z
												1
Month	Jan	Feb	Mar	Apr	Мау	Jun	Jul	Aug	Sep	Oct	Nov	Dec

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