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Lead-free Green

IMT17

DUAL PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

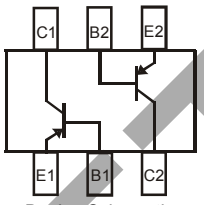
Features

- Epitaxial Planar Die Construction
- Small Surface Mount Package
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**

Mechanical Data

- Case: SOT-26
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: See Diagram
- Terminals: Finish – Matte Tin Annealed Over Copper Leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.016 grams (approximate)

Top View



Device Schematic

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5.0	V
Continuous Collector Current	I_C	-500	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3) @T_A = 25°C	P_D	300	mW
Thermal Resistance, Junction to Ambient Air (Note 3) @T_A = 25°C	$R_{\theta JA}$	417	°C /W
Operating and Storage 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 4)						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-60	—	—	V	I_C = -100μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-50	—	—	V	I_C = -1.0mA
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5.0	—	—	V	I_E = -100μA
Collector Cutoff Current	I_{CBO}	—	—	-0.1	μA	V_{CB} = -30V
Emitter Cutoff Current	I_{EBO}	—	—	-0.1	μA	V_{EB} = -4.0V
ON CHARACTERISTICS (Note 4)						
DC Current Gain	h_{FE}	120	—	390	—	V_{CE} = -3.0V, I_C = -100mA
Collector-Emitter Saturation Voltage (Note 3)	$V_{CE(SAT)}$	—	—	-0.6	V	I_C = -500mA, I_B = -50mA
SMALL SIGNAL CHARACTERISTICS						
Gain Bandwidth Product	f_T	—	200	—	MHz	V_{CE} = -5V, I_E = 20mA, f = 100MHz
Output Capacitance	C_{ob}	—	7	—	pF	V_{CB} = -10V, I_E = 0, f = 1MHz

Notes:
1. No purposefully added lead.
2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
3. Device mounted on FR-4 PCB; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on page 4 or on our website at http://www.diodes.com/datasheets/ap02001.pdf.
4. Short duration pulse test used to minimize self-heating effect.

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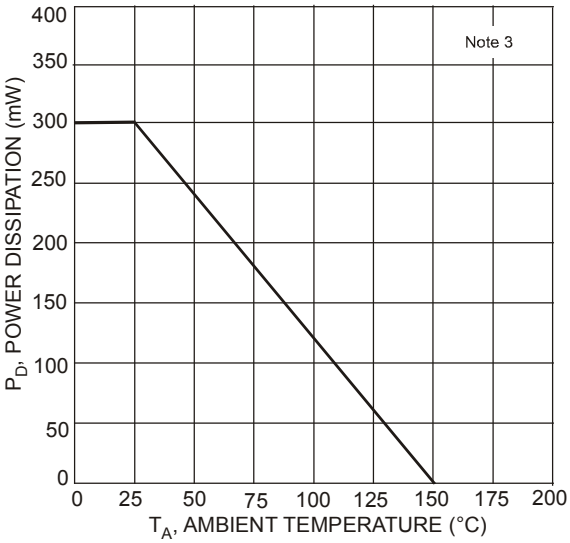

Fig. 1, Max Power Dissipation vs. Ambient Temperature

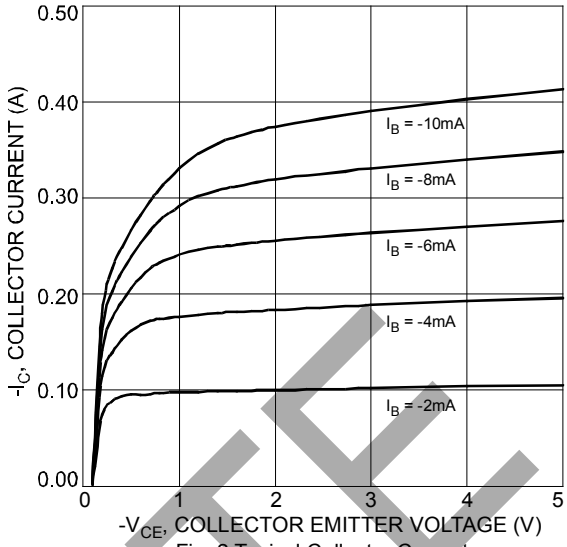

Fig. 2 Typical Collector Current vs. Collector-Emitter Voltage

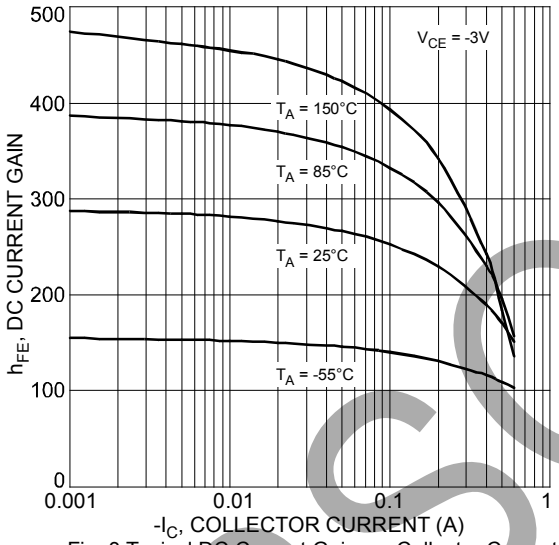

Fig. 3 Typical DC Current Gain vs. Collector Current

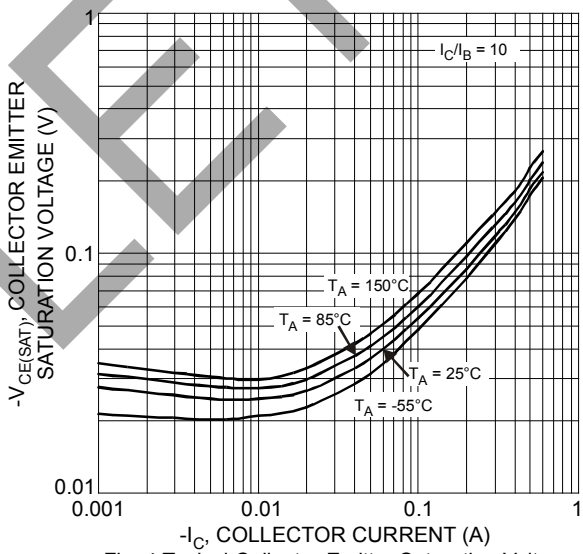

Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

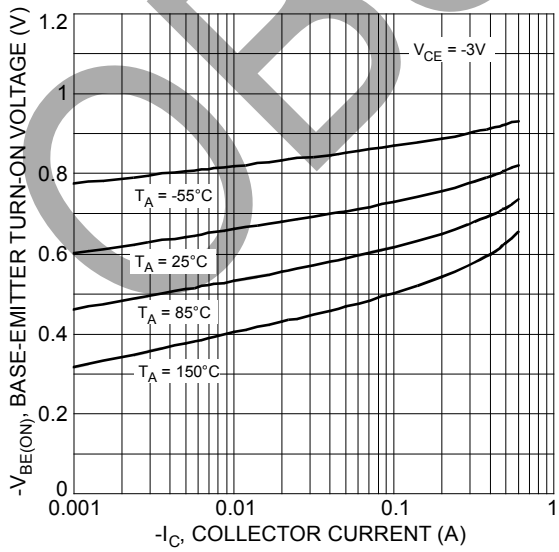

Fig. 5 Typical Base-Emitter Turn-On Voltage vs. Collector Current

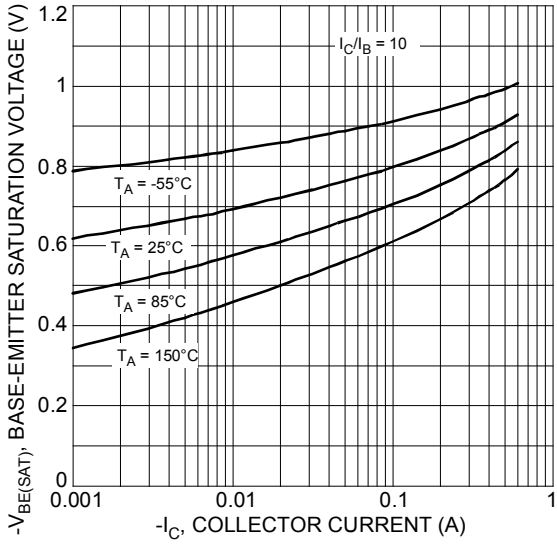

Fig. 6 Typical Base-Emitter Saturation Voltage vs. Collector Current

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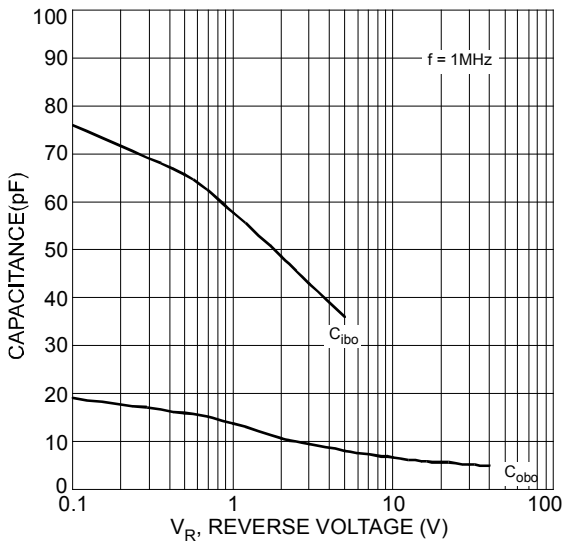


Fig. 7 Typical Capacitance Characteristics

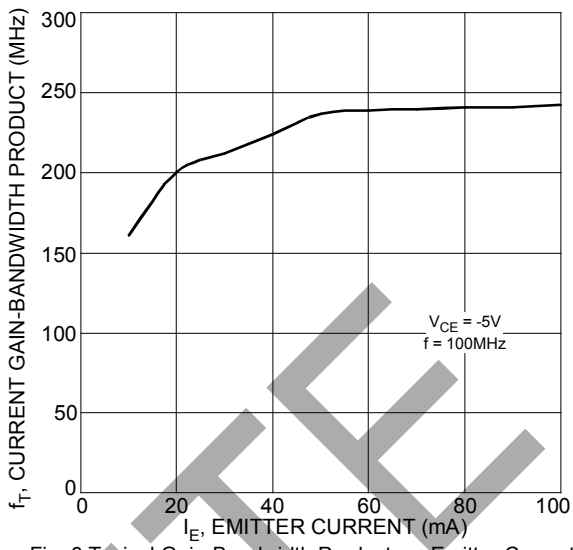


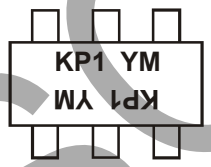
Fig. 8 Typical Gain-Bandwidth Product vs. Emitter Current

Ordering Information (Note 5)

Part Number	Case	Packaging
IMT17-7	SOT-26	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



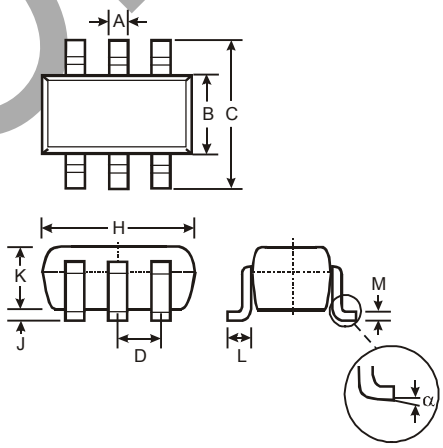
KP1 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: V = 2008)
M = Month (ex: 9 = September)

Date Code Key

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	U	V	W	X	Y	Z	A	B	C

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

Package Outline Dimensions



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
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			

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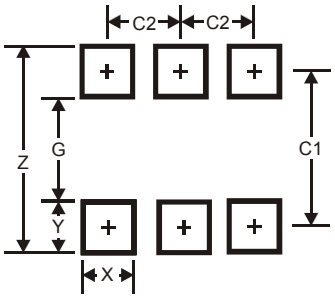
Suggested Pad Layout



Dimensions	Value (in mm)
Z	3.20
G	1.60
X	0.55
Y	0.80
C1	2.40
C2	0.95

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