

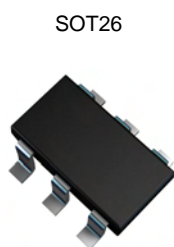
60V DUAL PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

Features & Benefits

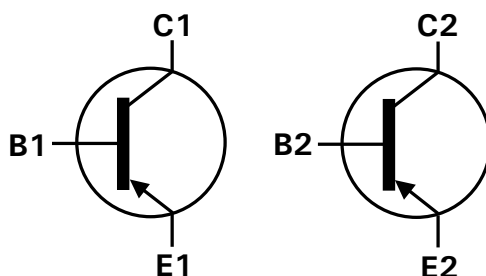
- $BV_{CEO} > -60V$
- $I_{CM} = -1A$ Peak Pulse Current
- General purpose NPN transistors ideally suited for low power amplification and switching applications
- Dual transistors in a single SOT26 package taking half the footprint of two equivalent transistors in SOT23
- Epitaxial planar die construction
- "Lead Free", RoHS Compliant (Note 1)
- Halogen and Antimony Free. "Green" Device (Note 2)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

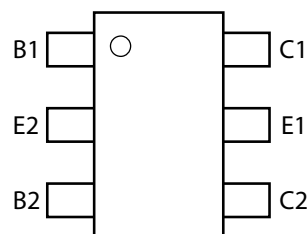
- Case: SOT26
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating: Matte Tin Finish annealed over Copper leadframe
- Weight: 0.015 grams (approximate)



Top View



Device Symbol



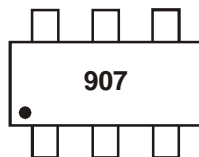
Top View Pin-Out

Ordering Information (Note 3)

Product	Marking	Reel size (inches)	Tape width (mm)	Quantity per reel
DMMT2907A-7	907	7	8	3,000

- Notes:
1. No purposefully added lead.
 2. Diodes Inc's "Green" Policy can be found on our website at <http://www.diodes.com>
 3. For packaging details, go to our website at <http://www.diodes.com>

Marking Information



907 = Product Type Marking Code

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

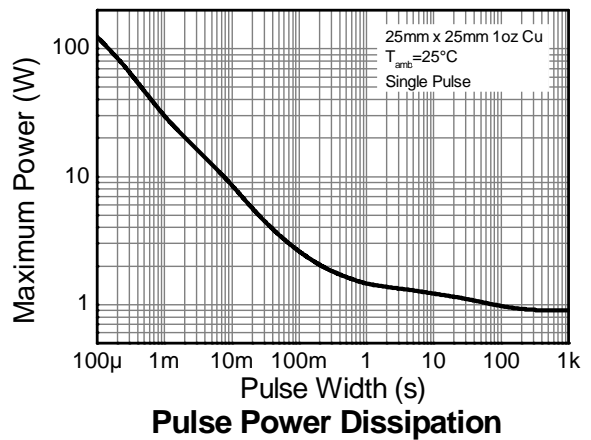
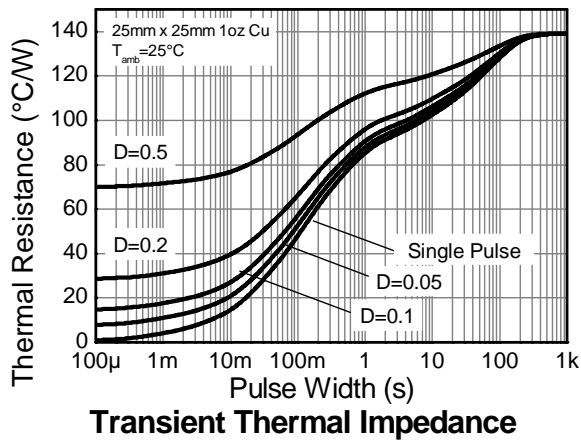
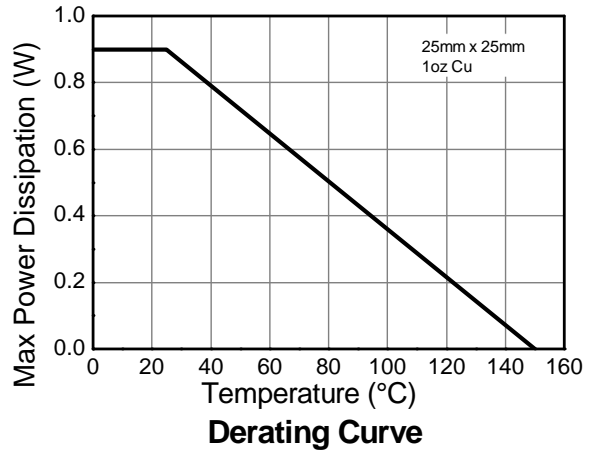
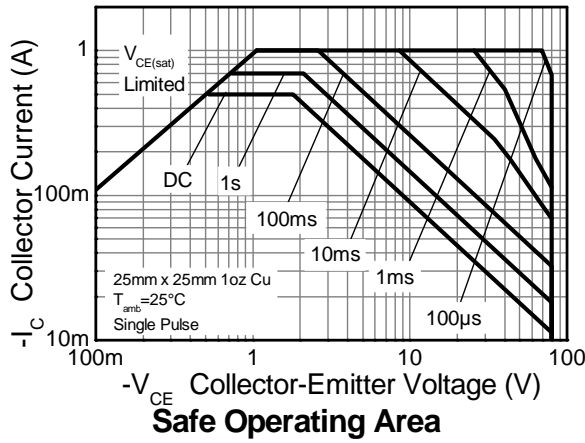
Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-600	mA
Peak Pulsed Collector Current	I_{CM}	-1	A

Thermal Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation	P_D	1.28	W
Linear Derating Factor		10.3	
	$R_{\theta JA}$	0.90	$^\circ\text{C/W}$
		7.14	
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	97	$^\circ\text{C/W}$
Thermal Resistance, Junction to Lead		140	
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

- Notes:
4. For a device surface mounted on 25mm x 25mm x 1.6mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions; the device is measured when operating in a steady-state condition.
 5. Same as note (4), except the device is measured at $t \leq 5$ sec.
 6. For a dual device with one active die.
 7. Thermal resistance from junction to solder-point (at the end of the collector lead).

Thermal Characteristics

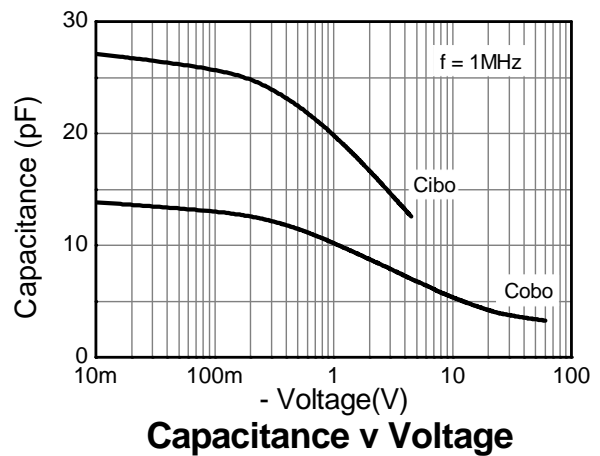
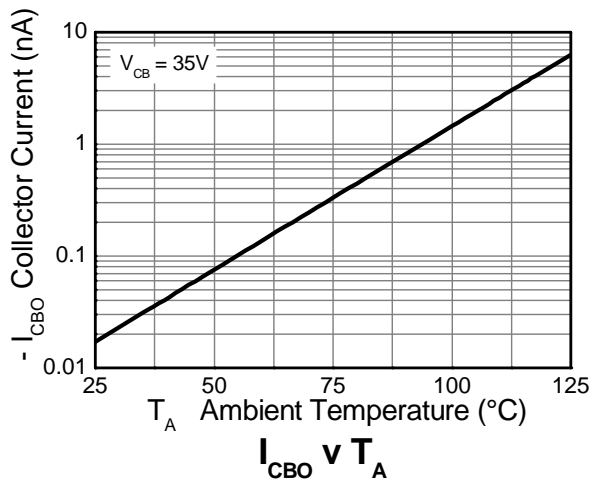
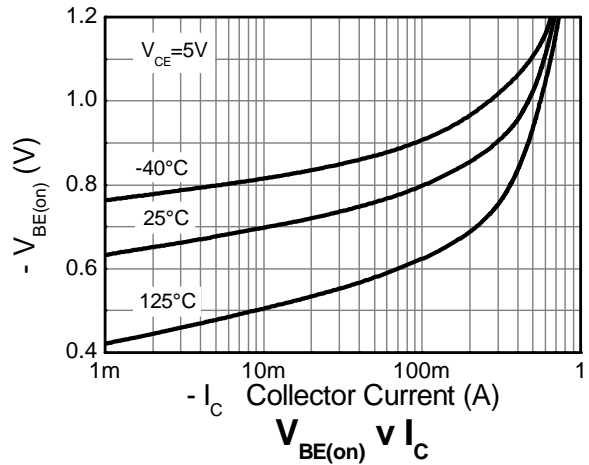
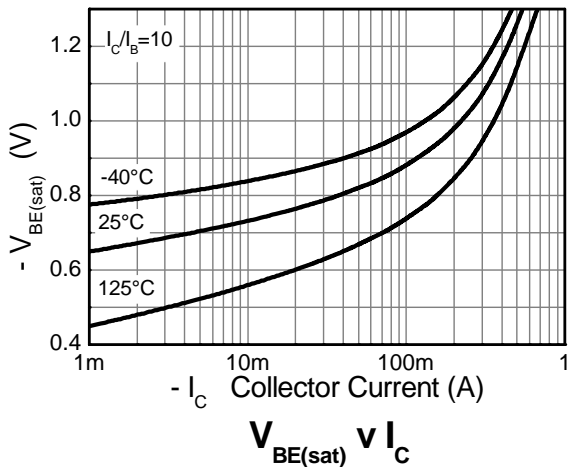
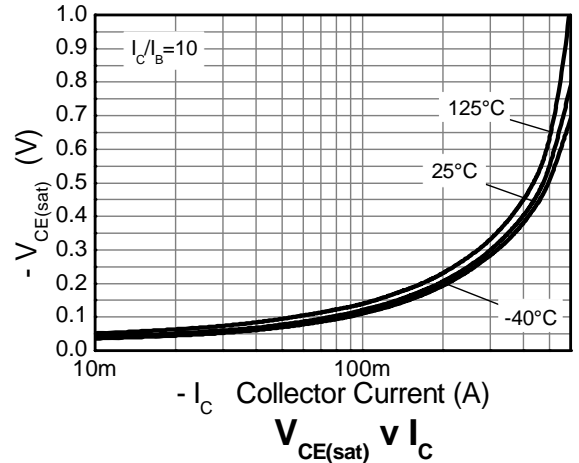
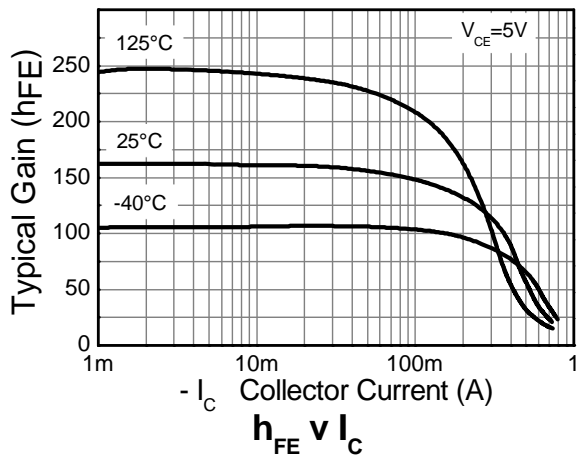


Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

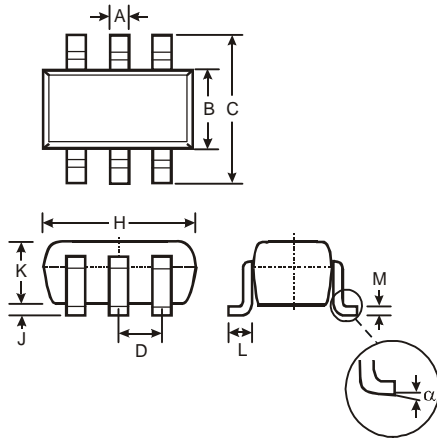
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	BV_{CBO}	-60	—	—	V	$I_C = -10\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage (Note 8)	BV_{CEO}	-60	—	—	V	$I_C = -10\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	BV_{EBO}	-5	—	—	V	$I_E = -10\mu\text{A}, I_C = 0$
Collector-Base Cutoff Current	I_{CBO}	—	—	-10	nA	$V_{CB} = -50\text{V}, I_E = 0$
		—	—	-10	μA	$V_{CB} = -50\text{V}, I_E = 0, T_A = 150^\circ\text{C}$
Collector-Emitter Cutoff Current	I_{CEV}	—	—	± 50	nA	$V_{CE} = -30\text{V}, V_{BE} = \pm 0.25\text{V}$
Base-Emitter Cutoff Current	I_{BEV}	—	—	± 50	nA	$V_{CE} = -30\text{V}, V_{BE} = \pm 0.25\text{V}$
ON CHARACTERISTICS (Note 8)						
DC Current Gain	h_{FE}	75	—	—	—	$I_C = -100\mu\text{A}, V_{CE} = -10\text{V}$
		100	—	—		$I_C = -1.0\text{mA}, V_{CE} = -10\text{V}$
		100	—	—		$I_C = -10\text{mA}, V_{CE} = -10\text{V}$
		100	—	300		$I_C = -150\text{mA}, V_{CE} = -10\text{V}$
		50	—	—		$I_C = -500\text{mA}, V_{CE} = -10\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	—	—	-0.4	V	$I_C = -150\text{mA}, I_B = -15\text{mA}$
		—	—	-1.6		$I_C = -500\text{mA}, I_B = -50\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	—	—	-1.3	V	$I_C = -150\text{mA}, I_B = -15\text{mA}$
		—	—	-2.6		$I_C = -500\text{mA}, I_B = -50\text{mA}$
SMALL SIGNAL CHARACTERISTICS						
Output Capacitance	C_{obo}	—	5.2	—	pF	$V_{CB} = -10\text{V}, f = 1.0\text{MHz}, I_E = 0\text{mA}$
Input Capacitance	C_{ibo}	—	16.3	—	pF	$V_{EB} = -2.0\text{V}, f = 1.0\text{MHz}, I_C = 0\text{mA}$
Current Gain-Bandwidth Product	f_T	200	307	—	MHz	$V_{CE} = -2\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$
Turn-On Time	t_{on}	—	—	21	ns	$V_{CC} = -30\text{V}, I_C = -150\text{mA}, I_{B1} = -15\text{mA}$
Delay Time	t_d	—	—	5.5	ns	
Rise Time	t_r	—	—	15.3	ns	
Turn-Off Time	t_{off}	—	—	200	ns	$V_{CC} = -6\text{V}, I_C = -150\text{mA}, I_{B1} = I_{B2} = -15\text{mA}$
Storage Time	t_s	—	—	160	ns	
Fall Time	t_f	—	—	40	ns	

 Notes: 8. Measured under pulsed conditions. Pulse width $\leq 300\mu\text{s}$. Duty cycle $\leq 2\%$.

Typical Electrical Characteristics

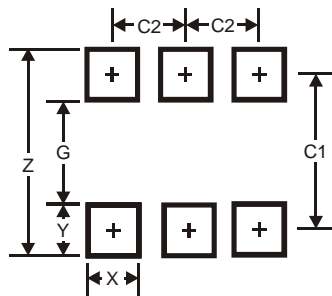


Package Outline Dimensions



SOT26			
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			

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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