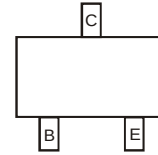
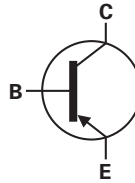


PNP SILICON PLANAR HIGH VOLTAGE TRANSISTOR
Features

- Excellent h_{FE} Characteristics up to $I_C = 50\text{mA}$
- Low Saturation Voltages
- **Lead, Halogen and Antimony Free, RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**



Top View



Pin Configuration

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Matte Tin Finish annealed over Copper leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.008 grams (approximate)

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-500	V
Collector-Emitter Voltage	V_{CEO}	-500	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-150	mA
Peak Pulse Current	I_{CM}	-500	mA

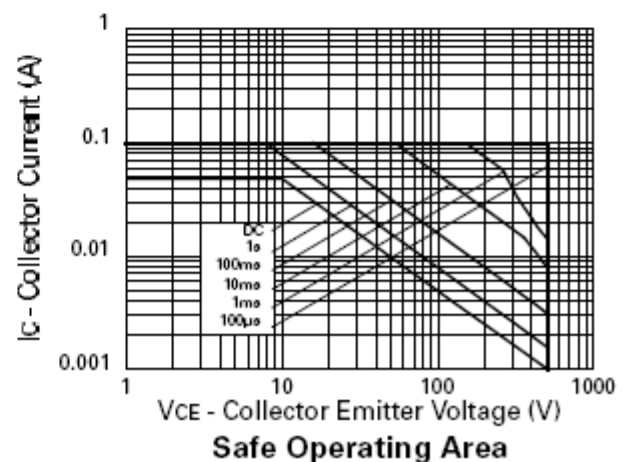
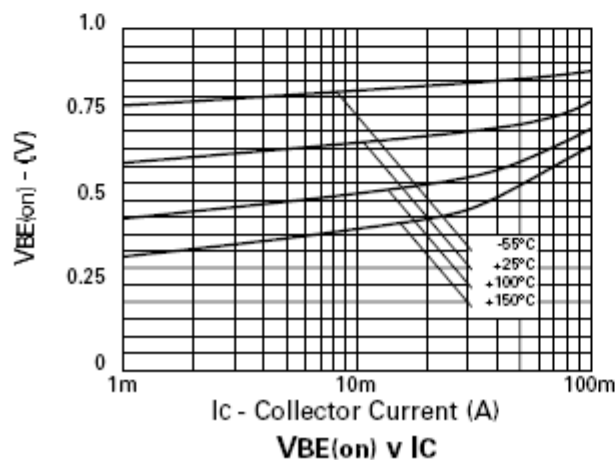
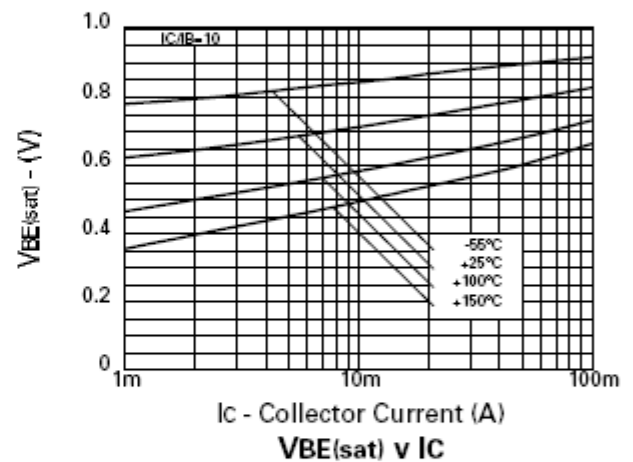
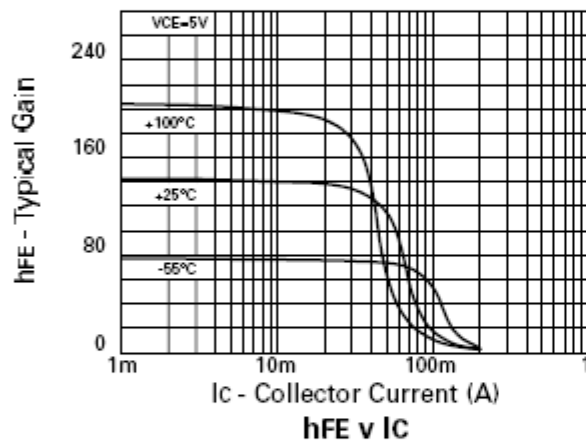
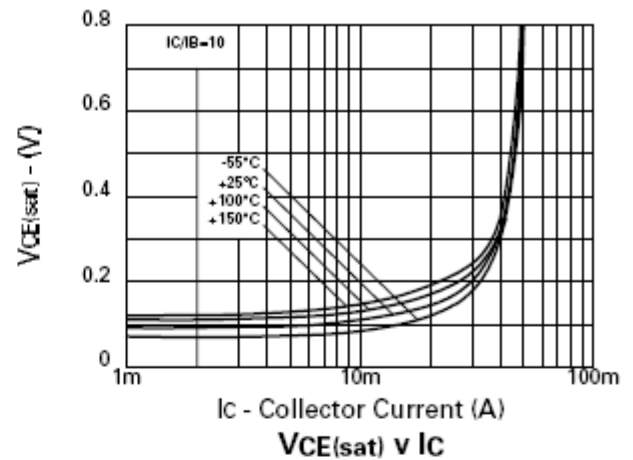
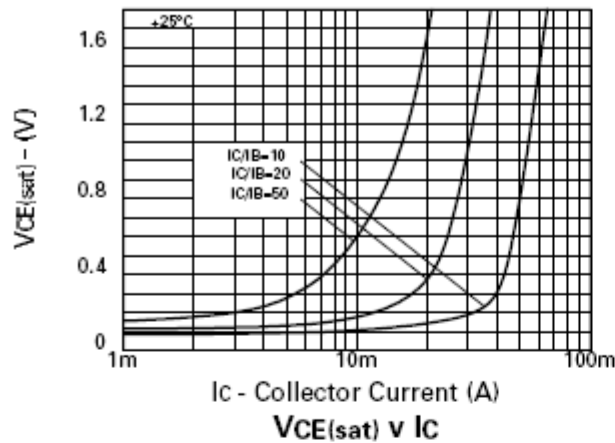
Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation	P_D	500	mW
Operating and Storage 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
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-500	—	—	V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage (Note 3)	$V_{(BR)CEO}$	-500	—	—	V	$I_C = -10\text{mA}$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = 100\mu\text{A}$
Collector Cutoff Current	I_{CBO}, I_{CES}	—	—	-100	nA	$V_{CB} = -500\text{V}, V_{CE} = -500\text{V}$
Emitter Cutoff Current	I_{EBO}	—	—	-100	nA	$V_{EB} = -5\text{V}$
ON CHARACTERISTICS (Note 3)						
DC Current Gain	h_{FE}	100 80 —	— — 15	300 300 —	—	$I_C = -1\text{mA}, V_{CE} = -10\text{V}$ $I_C = -50\text{mA}, V_{CE} = -10\text{V}$ $I_C = -100\text{mA}, V_{CE} = -10\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	—	-0.2 -0.5	V	$I_C = -20\text{mA}, I_B = -2\text{mA}$ $I_C = -50\text{mA}, I_B = -10\text{mA}$
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	—	—	-0.9	V	$I_C = -50\text{mA}, V_{CE} = -10\text{V}$
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	—	—	-0.9	V	$I_C = -50\text{mA}, I_B = -10\text{mA}$
SMALL SIGNAL CHARACTERISTICS						
Output Capacitance	C_{obo}	—	—	8	pF	$V_{CB} = -20\text{V}, f = 1\text{MHz}$
Current Gain-Bandwidth Product	f_T	60	—	—	MHz	$V_{CE} = -20\text{V}, I_C = -10\text{mA}, f = 50\text{MHz}$
SWITCHING CHARACTERISTICS						
Turn-On Time	t_{on}	—	110	—	ns	$V_{CE} = -100\text{V}, I_C = -50\text{mA}, I_{B1} = -5\text{mA}, I_{B2} = 10\text{mA}$
Turn-Off Time	t_{off}	—	1.5	—	μs	

Notes: 1. No purposefully added lead. Halogen and Antimony Free.
2. Diodes Inc.'s "Green" Policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
3. Measured under pulsed conditions. Pulse width = 300 μs . Duty cycle $\leq 2\%$

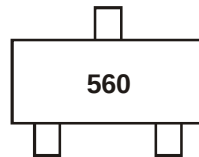


Ordering Information (Note 4)

Part Number	Case	Packaging
FMMT560TA	SOT-23	3000/Tape & Reel

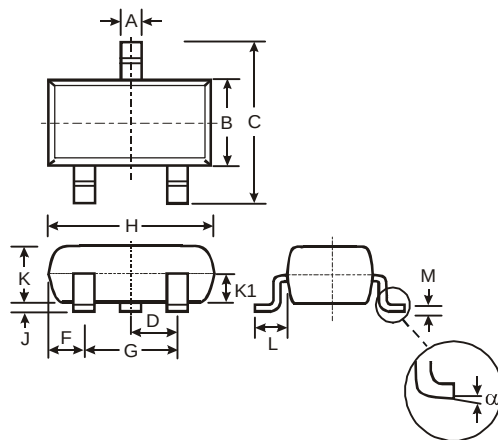
Notes: 4. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



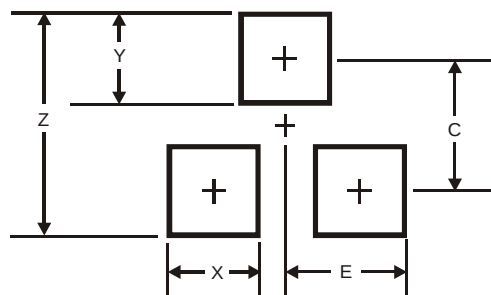
560 = Product Type Marking Code

Package Outline Dimensions



SOT-23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.903	1.10	1.00
K1	-	-	0.400
L	0.45	0.61	0.55
M	0.085	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

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