



60V LOW V_{CE(sat)} PNP SURFACE MOUNT TRANSISTOR

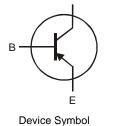
Features

- Epitaxial Planar Die Construction
- Ideal for Medium Power Amplification and Switching
- "Lead Free", RoHS Compliant (Note 1)
- Halogen and Antimony Free. "Green" Device (Note 2)
- Qualified to AEC-Q101 Standards for High Reliability

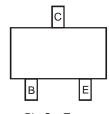
Mechanical Data

- Case: SOT23
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.008 grams (approximate)





С



Pin-Out Top

Ordering Information (Note 3)

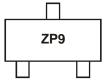
Product	Marking	Reel size (inches)	Tape width (mm)	Quantity per reel
DSS5160T-7	ZP9	7	8mm	3,000

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



ZP9 = Product Type Marking Code



Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-80	V
Collector-Emitter Voltage	V _{CEO}	-60	V
Emitter-Base Voltage	V _{EBO}	-5	V
Continuous Collector Current	Ic	-1	A
Peak Pulse Collector Current	I _{CM}	-2	A
Base Current (DC)	IB	-300	mA
Peak Base Current	I _{BM}	-1	A

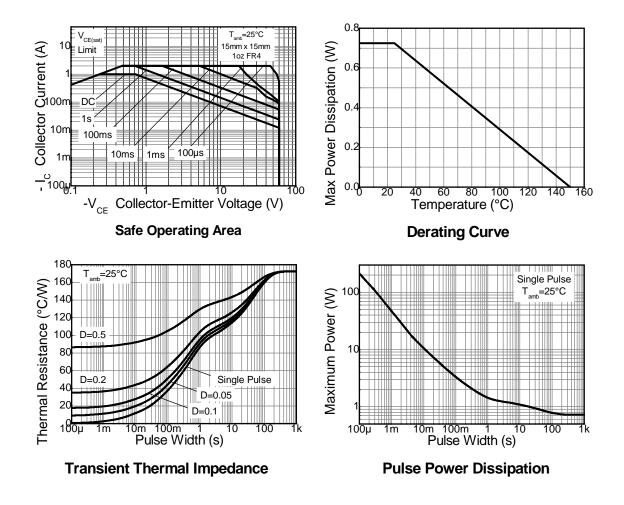
Thermal Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	PD	725	mW
Thermal Resistance, Junction to Ambient (Note 5)	R _{0JA}	172	°C/W
Thermal Resistance, Junction to Ambient Air (Note 4)	R _{0JA}	79	°C/W
Operating and Storage Temperature Range	TJ, T _{STG}	-55 to +150	°C

Notes: 4. Operated under pulsed conditions: pulse width ≤ 100 ms, duty cycle ≤ 0.25 .

5. Device mounted on 15mm x 15mm x1.6mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.

Thermal Characteristics





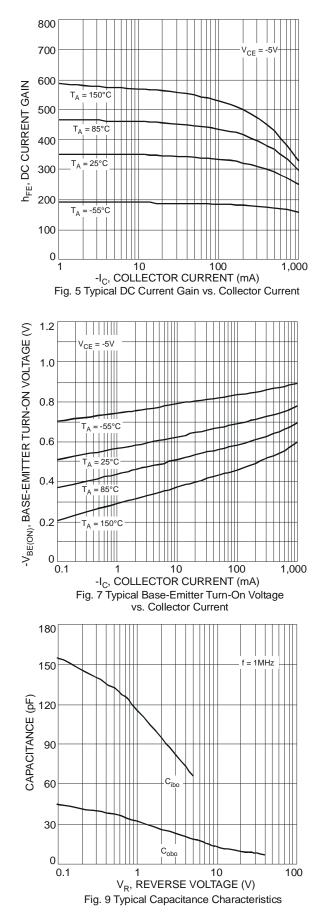
Electrical Characteristics @T_A = 25°C unless otherwise specified

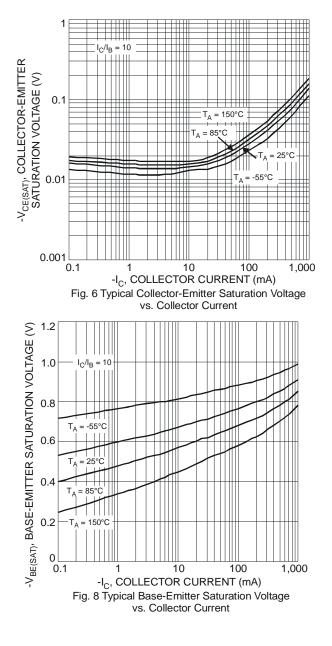
Characteristic	Symbol	Min	Тур	Max	Unit	Test Conditions	
Collector-Base Breakdown Voltage	BV _{CBO}	-80	.yp		V	$I_{\rm C} = -100\mu A$	
Collector-Emitter Breakdown Voltage (Note 6)	BVCBO	-60	_		v	$I_{\rm C} = -100\mu$ A	
Emitter-Base Breakdown Voltage	BVEBO	-5	_		v	$I_F = -100\mu A$	
0	DVEBO	_	_	-100	nA	$V_{CB} = -20V, I_E = 0$	
Collector-Base Cutoff Current	I _{CBO}	_	_	-50	μA	$V_{CB} = -20V, I_E = 0, T_A = 150^{\circ}C$	
Emitter-Base Cutoff Current	I _{EBO}		_	-100	nA	$V_{EB} = -5V, I_{C} = 0$	
	200	200	_	_		$V_{CE} = -5V, I_{C} = -1mA$	
DC Current Gain (Note 6)	h _{FE}	150	_	_	_	$V_{CE} = -5V, I_{C} = -500mA$	
		100	_			$V_{CE} = -5V, I_{C} = -1A$	
			—	-175		I _C = -100mA, I _B = -1mA	
Collector-Emitter Saturation Voltage (Note 6)	V _{CE(sat)}		—	-180	mV	I _C = -500mA, I _B = -50mA	
	OE(OUI)	_	_	-340		I _C = -1A, I _B = -100mA	
Equivalent On-Resistance	R _{CE(sat)}		—	340	mΩ	I _E = -1A, I _B = -100mA	
Base-Emitter Saturation Voltage	V _{BE(sat)}		—	-1.1	V	I _C = -1A, I _B = -50mA	
Base-Emitter Turn-on Voltage	V _{BE(on)}		_	-0.9	V	$V_{CE} = -5V, I_{C} = -1A$	
Transition Frequency	f⊤	150	_	_	MHz	$V_{CE} = -10V, I_C = -50mA,$ f = 100MHz	
Output Capacitance	C _{ob}		_	15	pF	V _{CB} = -10V, f = 1MHz	
Turn-On Time	t _{on}		75		ns		
Delay Time	t _d		35		ns		
Rise Time	tr		40		ns	$V_{CC} = -10V, I_C = -0.5A,$ $I_{B1} = I_{B2} = -25mA$	
Turn-Off Time	t _{off}		265		ns		
Storage Time	ts		230		ns		
Fall Time	t _f	_	35		ns		

Notes: 6. Measured under pulsed conditions. Pulse width = 300μ s. Duty cycle $\leq 2\%$.



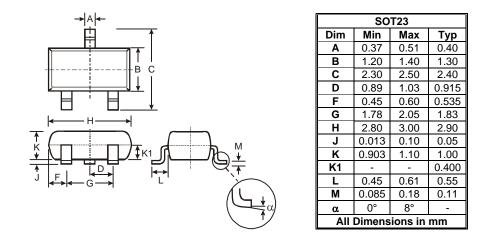




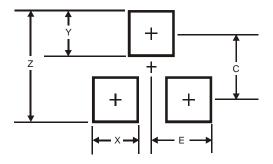




Package Outline Dimensions



Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
Х	0.8
Y	0.9
С	2.0
E	1.35



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