

60V NPN DARLINGTON TRANSISTOR IN SOT23
Description

This Bipolar Junction Transistor (BJT) is designed to meet the stringent requirements of automotive applications.

Features

- $BV_{CEO} > 60V$
- Darlington Transistor $h_{FE} > 10k$ @ 100mA for High Gain
- $I_C = 500mA$ High Continuous Collector Current
- Complementary Darlington PNP Type: BCV46
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**
- **PPAP Capable (Note 4)**

Mechanical Data

- Case: SOT23
- Case Material: Molded Plastic, "Green" molding compound
- UL Flammability Classification Rating 94V-0
- Moisture Sens

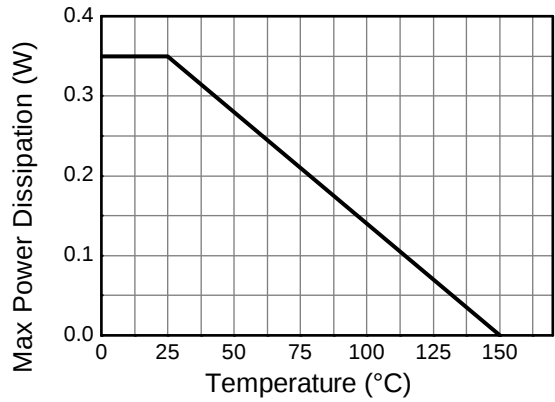
Absolute Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	80	V
Collector-Emitter Voltage	V _{CEO}	60	V
Emitter-Base Voltage	V _{EBO}	10	V
Continuous Collector Current	I _C	500	mA
Peak Pulse Current	I _{CM}	800	mA
Base Current	I _B	100	mA

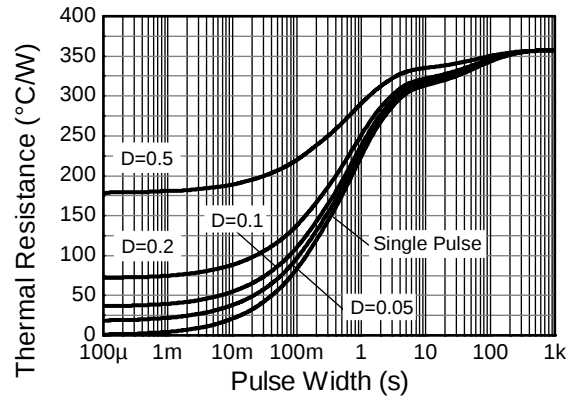
Thermal Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Power Dissipation	P _D	310	mW
		350	
Thermal Resistance, Junction to Ambient	R _{θJA}	403	°C/W

Thermal Characteristics and Derating Information (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)



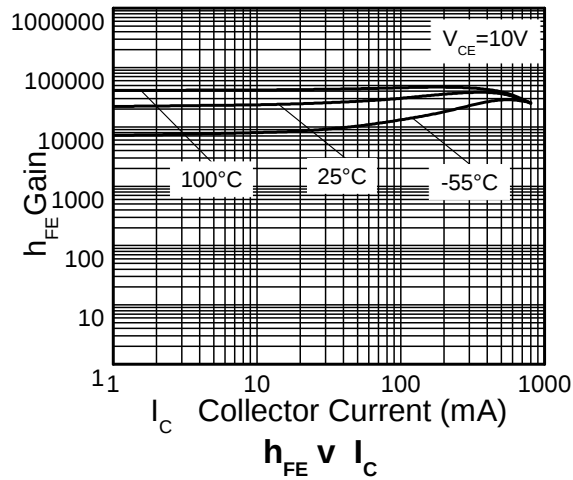
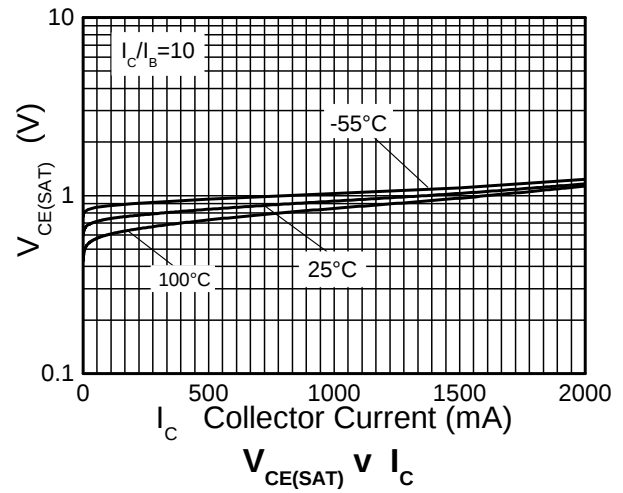
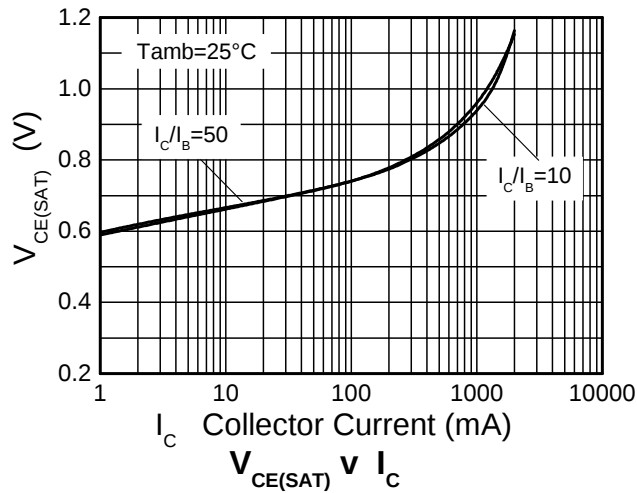
Derating Curve



Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

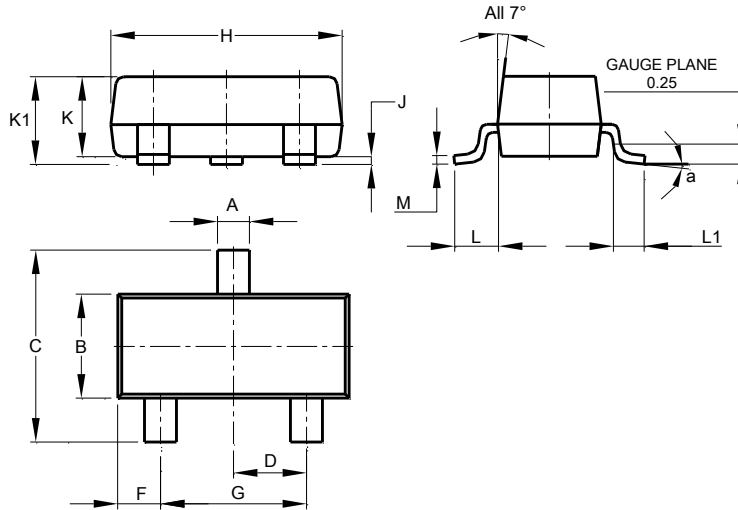
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	BV _{CBO}	80	—	—	V	I _C = 100μA
Collector-Emitter Breakdown Voltage (Note 10)	BV _{CEO}	60	—	—	V	I _{CEO} = 10mA
Emitter-Base Breakdown Voltage	BV _{EBO}	10	—	—	V	I _{EBO} = 10μA
Collector cut-off current	I _{CBO}	—	<1	100	nA	V _{CB} = 60V
		—	—	10	μA	V _{CB} = 60V, T _A = +150°C
Emitter-base Cut-off Current	I _{EBO}	—	<1	100	nA	V _{EB} = 4V
ON CHARACTER						

Typical Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)



Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.



SOT23			
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

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