2N6052

Preferred Device

Darlington Complementary Silicon Power Transistors

This package is designed for general−purpose amplifier and low frequency switching applications.

Features

- High DC Current Gain — h_{FE} = 3500 (Typ) @ I_C = 5.0 Adc
- Collector−Emitter Sustaining Voltage — @ 100 mA
  $V_{CEO(sus)}$ = 100 Vdc (Min)
- Monolithic Construction with Built−In Base−Emitter Shunt Resistors
- This is a Pb−Free Device*

MAXIMUM RATINGS (Note 1)

Rating	Symbol	Value	Unit
Collector−Emitter Voltage	V_{CEO}	100	Vdc
Collector−Base Voltage	V_{CB}	100	Vdc
Emitter−Base Voltage	V_{EB}	5.0	Vdc
Collector Current − Continuous Peak	I_C	12 20	Adc
Base Current	I_B	0.2	Adc
Total Power Dissipation @ T_C = 25°C Derate above 25°C	P_D	150 0.857	W W/°C
Operating and Storage Temperature Range	T_J, T_{stg}	−65 to +200	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction−to−Case	$R_{\theta JC}$	1.17	°C/W

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. Indicates JEDEC Registered Data.

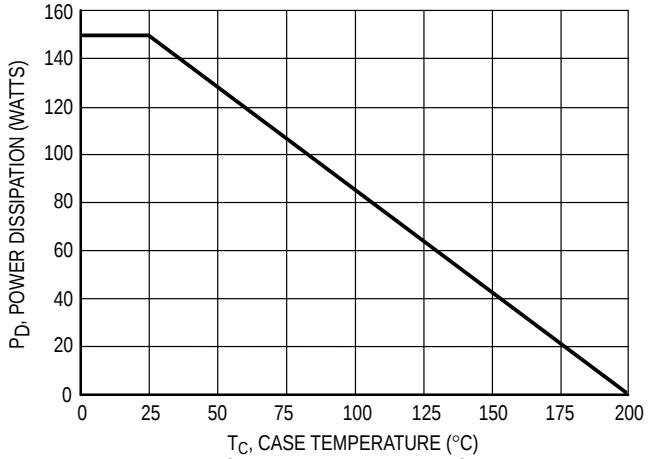


Figure 1. Power Derating

http://onsemi.com

12 AMPERE COMPLEMENTARY SILICON POWER TRANSISTOR 100 VOLTS, 150 WATTS

MARKING DIAGRAM

2N6052G
AYYWW
MEX

TO−204AA (TO−3)
CASE 1−07
STYLE 1

2N6052	=	Device Code
G	=	Pb−Free Package
A	=	Location Code
YY	=	Year
WW	=	Work Week
MEX	=	Country of Orgin

Device	Package	Shipping (TO

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

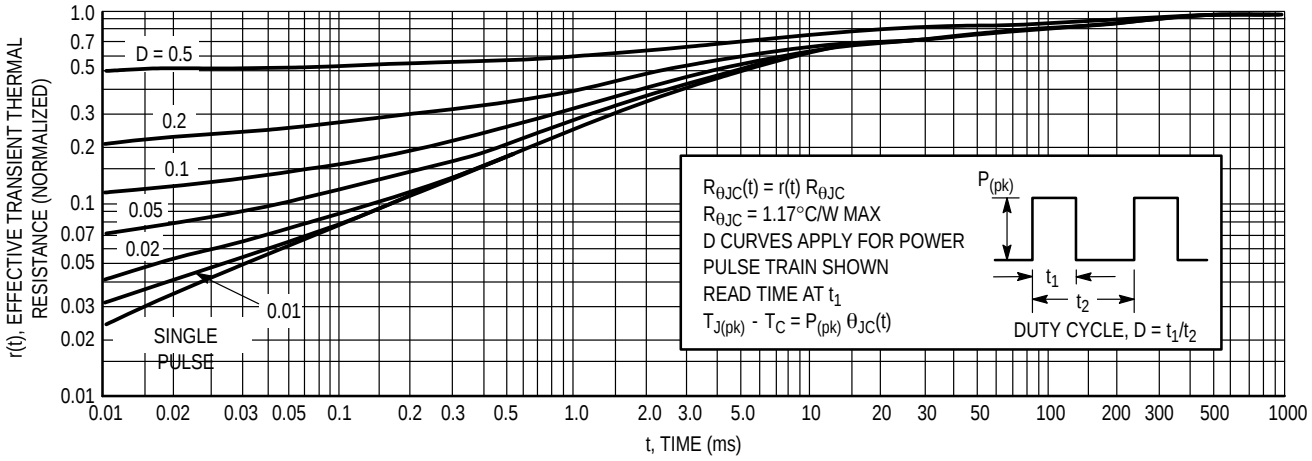


Figure 4. Thermal Response

There are two limitations on the power handling ability of a transistor: average junction temperature and second

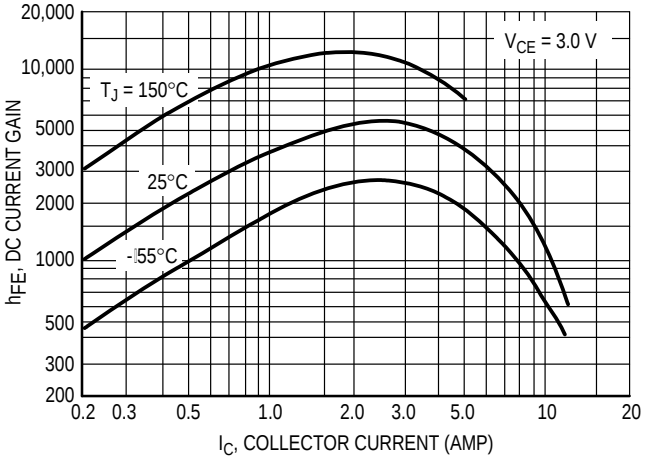


Figure 8. DC Current Gain

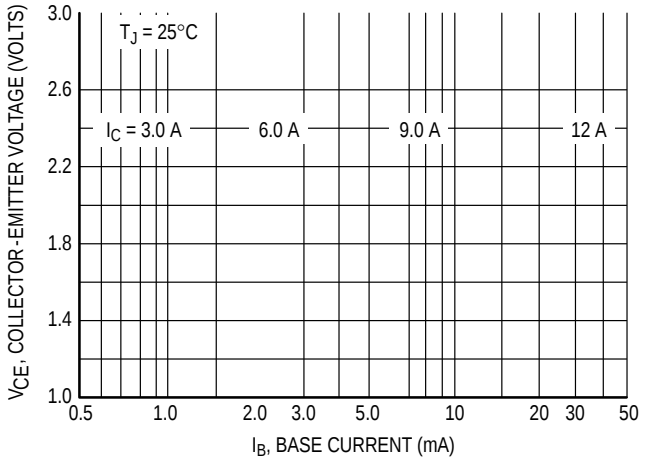


Figure 9. Collector Saturation Region

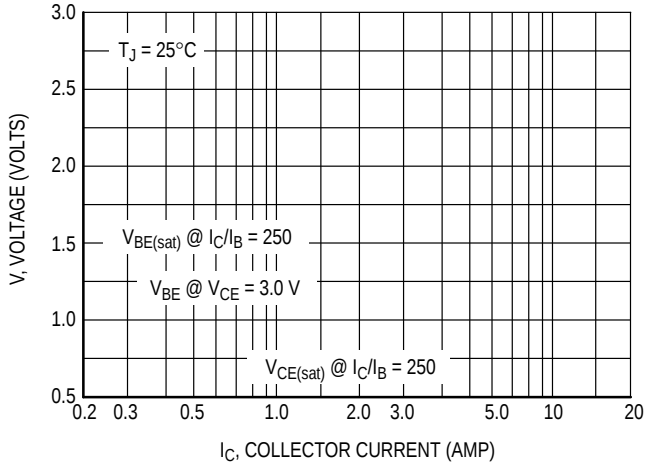
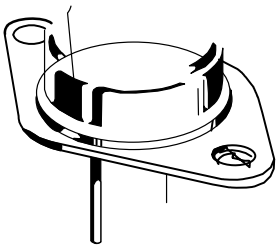


Figure 10. “On” Voltages



SCALE 1:1

CASE 1−07