



YOUSHANG SEMICONDUCTOR

设计研发新型功率器件

各类小信号开关

中低压及高压大电流等场效应管

0755-83047638

ysbdt@szyoushang.cn

www.szyoushang.cn



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Features

- Ultra-Small Surface Mount Package
- Ideally Suited for Automated Insertion
- For switching and AF Amplifier Application

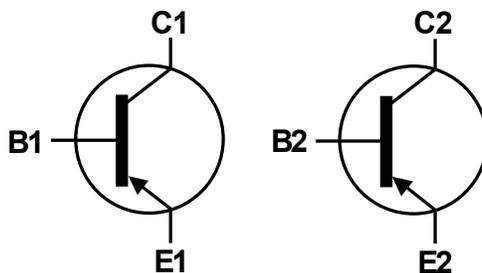
Mechanical Data

- Case: SOT363
- 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 Finish. Solderable per MIL-STD-202, Method 208 ^(e3)
- Weight: 0.006 grams (approximate)

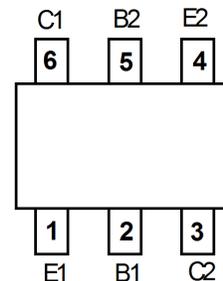


SOT363

Top View



Device Symbol



Top View
Pin-Out

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	-50	V
Collector-Emitter Voltage	V _{CEO}	-45	V
Emitter-Base Voltage	V _{EBO}	-5.0	V
Collector Current	I _C	-100	mA
Peak Collector Current	I _{CM}	-200	mA
Peak Base Current	I _{BM}	-200	mA

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

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	P _D	200	mW
Thermal Resistance, Junction to Ambient Air (Note 6)	R _{θJA}	625	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

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

Characteristic (Note 7)	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV _{CB0}	-50	—	—	V	I _C = 100μA, I _B = 0
Collector-Emitter Breakdown Voltage	BV _{CEO}	-45	—	—	V	I _C = 10mA, I _B = 0
Emitter-Base Breakdown Voltage	BV _{EBO}	-5	—	—	V	I _E = 100μA, I _C = 0
DC Current Gain	h _{FE}	220	—	475	—	V _{CE} = -5.0V, I _C = -2.0mA
Collector-Emitter Saturation Voltage	V _{CE(sat)}	—	—	-100 -400	mV	I _C = -10mA, I _B = -0.5mA I _C = -100mA, I _B = -5.0mA
Base-Emitter Saturation Voltage	V _{BE(sat)}	—	-700	—	mV	I _C = -10mA, I _B = -0.5mA
Base-Emitter Voltage	V _{BE(on)}	-580	-665	-750	mV	V _{CE} = -5.0V, I _C = -2.0mA
Collector-Cutoff Current	I _{CB0}	—	—	-15 -4.0	nA μA	V _{CB} = -30V V _{CB} = -30V, T _A = +150°C
Emitter Cutoff Current	I _{EBO}	—	—	-100	nA	V _{EB} = -5.0V, I _C = 0
Gain Bandwidth Product	f _T	100	—	—	MHz	V _{CE} = -5.0V, I _C = -10mA, f = 100MHz
Collector-Base Capacitance	C _{CB0}	—	2	3	pF	V _{CB} = -10V, f = 1.0MHz
Emitter-Base Capacitance	C _{EBO}	—	11	—	pF	V _{EB} = -0.5V, f = 1.0MHz

- Notes:
6. For the device mounted on minimum recommended pad layout 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.
 7. Short duration pulse test used to minimize self-heating effect.

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

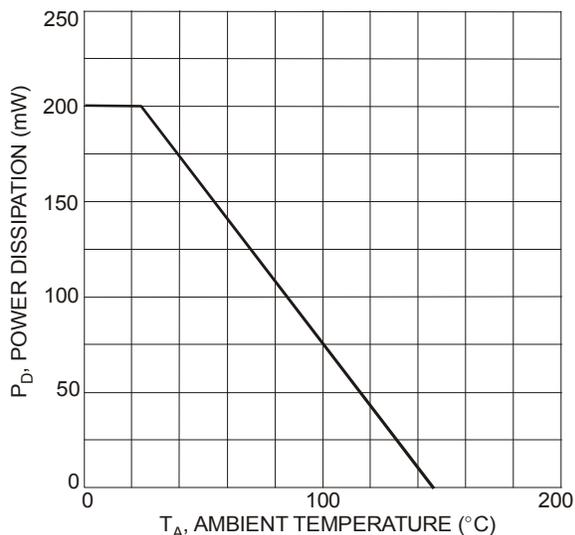


Fig. 1 Power Dissipation vs. Ambient Temperature

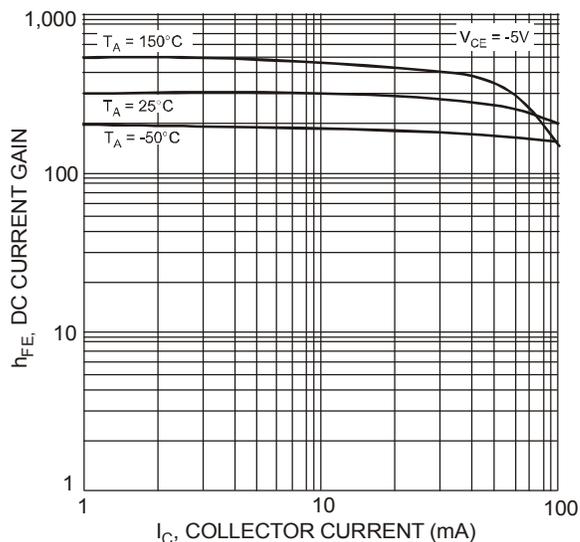


Fig. 2 Typical DC Current Gain vs. Collector Current

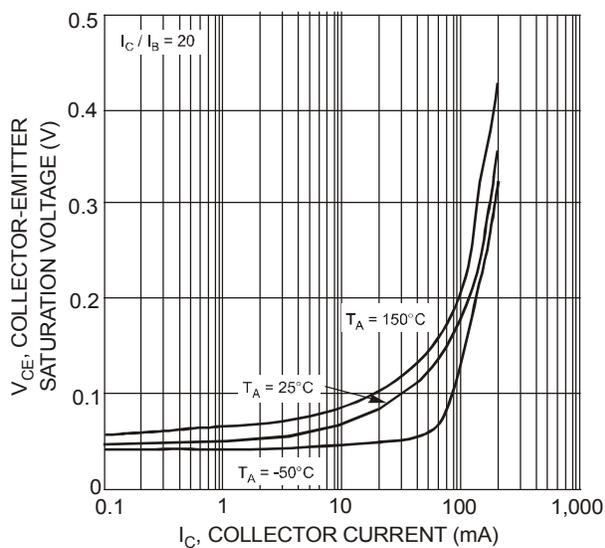


Fig. 3 Typical Collector-Emitter Saturation Voltage vs. Collector Current

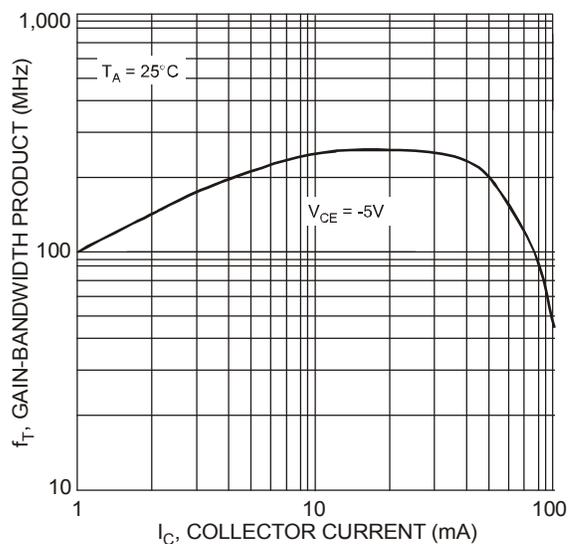
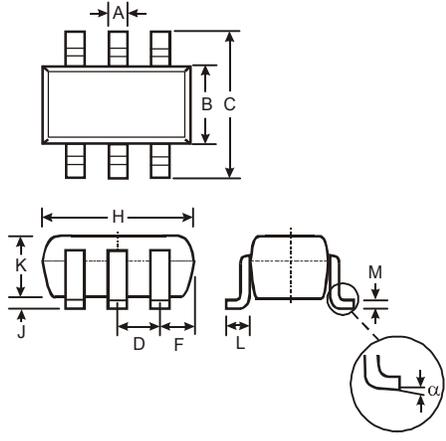


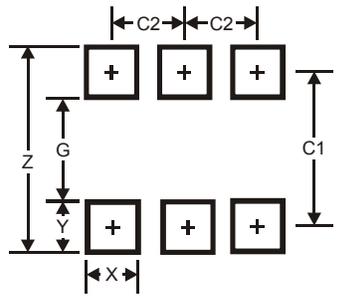
Fig. 4 Typical Gain-Bandwidth Product vs. Collector Current

Package Outline Dimensions



SOT363			
Dim	Min	Max	Typ
A	0.10	0.30	0.25
B	1.15	1.35	1.30
C	2.00	2.20	2.10
D	0.65 Typ		
F	0.40	0.45	0.425
H	1.80	2.20	2.15
J	0	0.10	0.05
K	0.90	1.00	1.00
L	0.25	0.40	0.30
M	0.10	0.22	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.5
G	1.3
X	0.42
Y	0.6
C1	1.9
C2	0.65