优尚

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

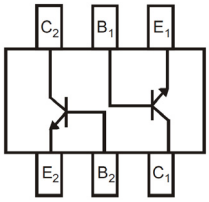
- Ultra-Small Surface Mount Package
- Ideally Suited for Automated Insertion
- For switching and AF Amplifier Application

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 Schematic
Top View

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	6	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 (Note 6)	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 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_{CBO}	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}	6	—	—	V	I_E = 100μA, I_C = 0
DC Current Gain	h_{FE}	200	—	450	—	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	$V_{BE(sat)}$	—	755	—	mV	I_C = 10mA, I_B = 0.5mA
Base-Emitter Voltage	$V_{BE(on)}$	580	665	700	mV	V_{CE} = 5.0V, I_C = 2.0mA
Collector-Cutoff Current	I_{CBO}	— —	— —	20 5.0	nA μA	V_{CB} = 40V V_{CB} = 40V, T_A = +125°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_{CBO}	—	2.0	3.0	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°C unless otherwise specified.)

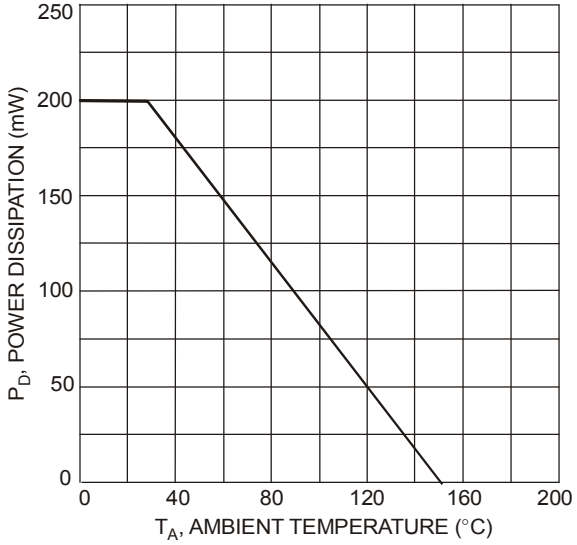


Figure 1 Power Derating Curve

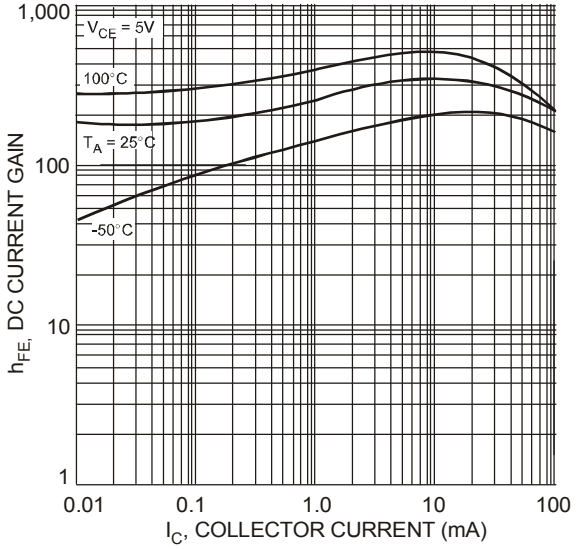


Figure 2 Typical DC Current Gain vs. Collector Current

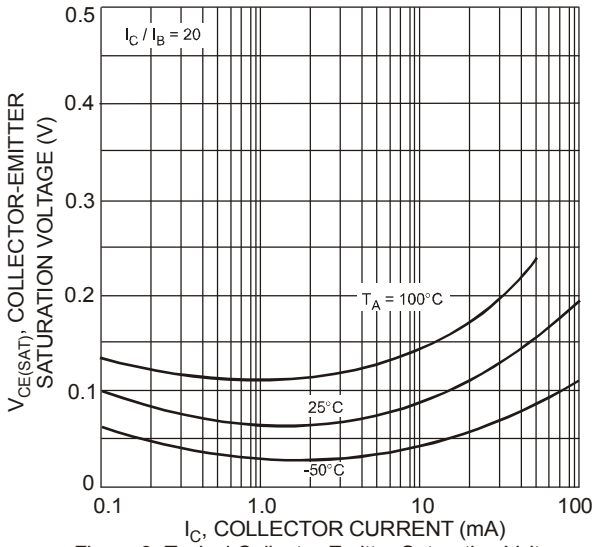


Figure 3 Typical Collector-Emitter Saturation Voltage vs. Collector Current

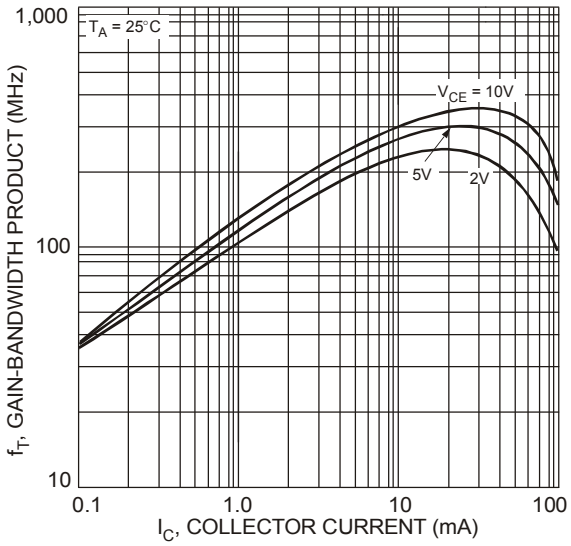
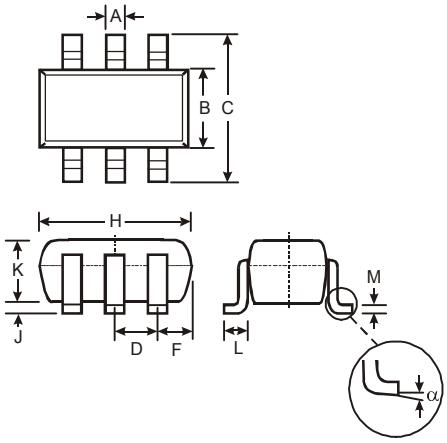


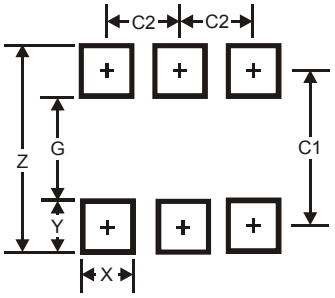
Figure 4 Typical Gain-Bandwidth Product vs. Collector Current

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