

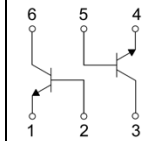
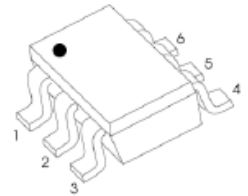
Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion

Mechanical Data

- **Package:** SOT-363
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 1F

SOT-363



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	
V_{EBO}	Emitter-Base Voltage	6	
I_C	Collector Current-Continuous	100	mA
P_D	Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance. Junction to Ambient	625	$^{\circ}\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

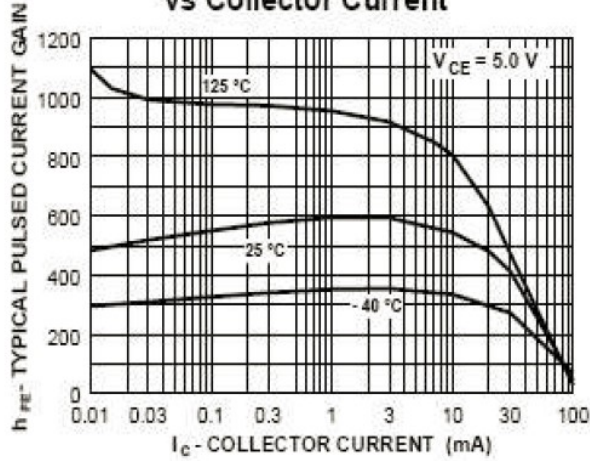
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$			15	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			15	
DC current gain*	h_{FE}	$V_{CE}=5\text{V}, I_C=2\text{mA}$	200		450	
Collector-emitter saturation voltage	$V_{CE(sat)(1)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$			0.25	V
	$V_{CE(sat)(2)}$	$I_C=100\text{mA}, I_B=5\text{mA}$			0.65	V
Base-emitter voltage	$V_{BE(1)}$	$V_{CE}=5\text{V}, I_C=2\text{mA}$	0.58		0.7	V
	$V_{BE(2)}$	$V_{CE}=5\text{V}, I_C=10\text{mA}$			0.77	V
Transition frequency	f_T	$V_{CE}=5\text{V}, I_C=20\text{mA}, f=100\text{MHz}$		200		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		2		pF

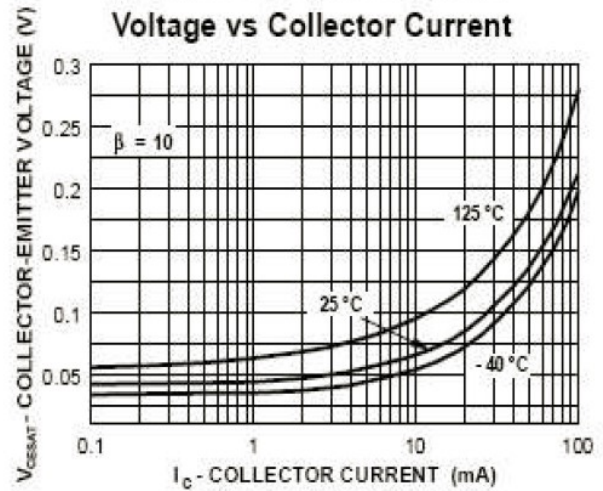
*pulse test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$.

Typical Characteristics

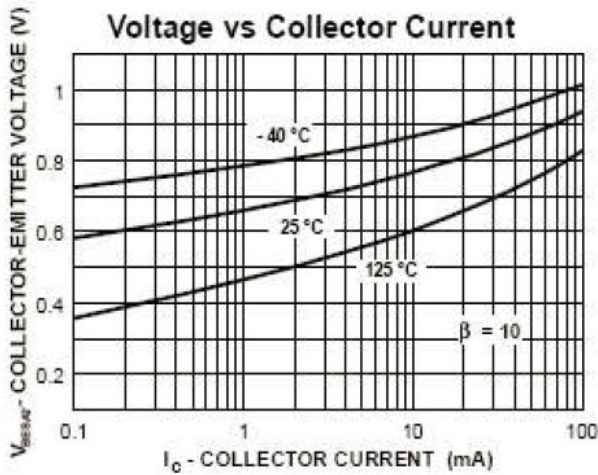
Typical Pulsed Current Gain
vs Collector Current



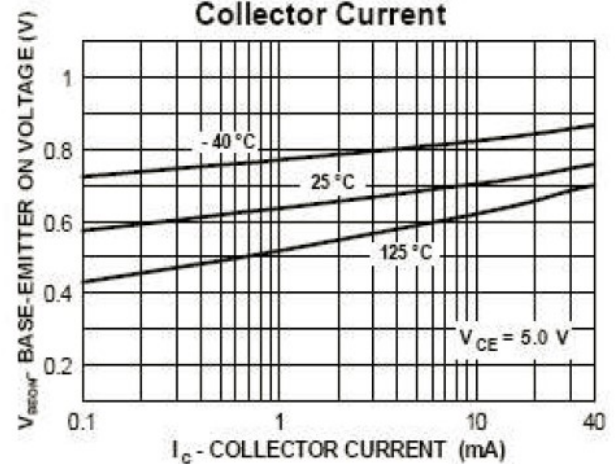
Collector-Emitter Saturation
Voltage vs Collector Current



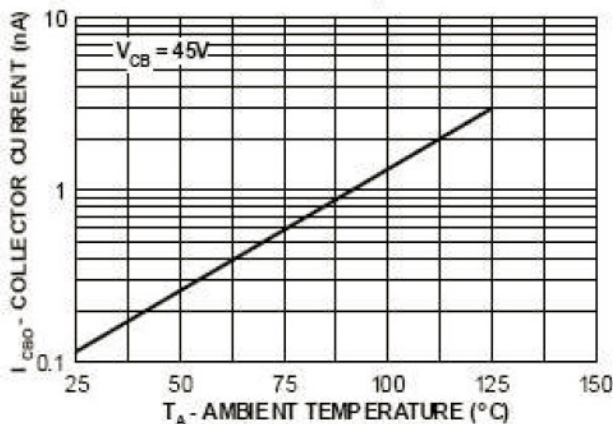
Base-Emitter Saturation
Voltage vs Collector Current



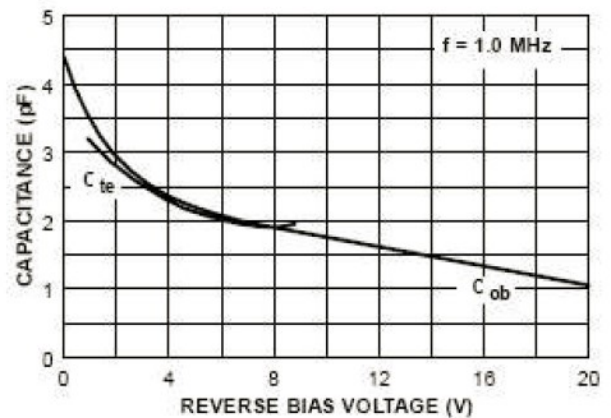
Base-Emitter ON Voltage vs
Collector Current



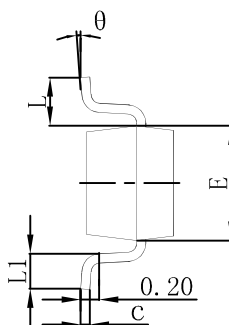
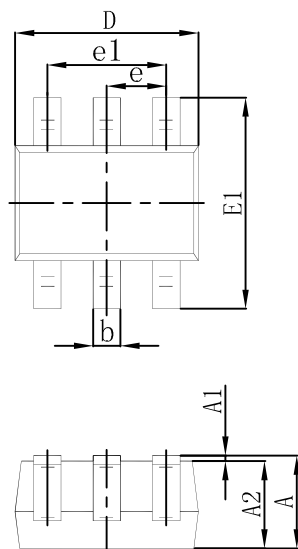
Collector-Cutoff Current
vs Ambient Temperature



Input and Output Capacitance
vs Reverse Bias Voltage

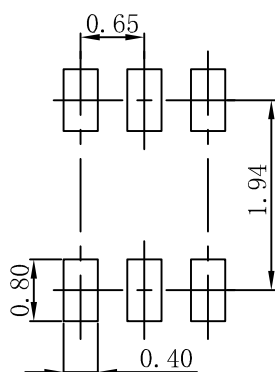


SOT-363 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.400	0.085	0.094
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-363 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.