



Small Signal Transistor

60V NPN+NPN
SOT363

Features

- Collector Current : $I_C = 200\text{mA}$
- Power Dissipation of 200mW
- High Stability and High Reliability

Mechanical Data

- Case: SOT363 Package
- Case Material: "Green" Molding Compound
UL Flammability Classification Rating 94V-0
- Halogen Free

Note: Products with logo  or  are made by HY Electronic (Cayman) Limited.

Ordering Information

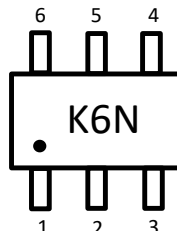
- Package :SOT363
- Reel Size :7 (inches)
- Quantity Per Reel :3,000 pcs
- Quantity One Box :45,000 pcs
- Quantity One Carton :180,000 pcs

Package Outline



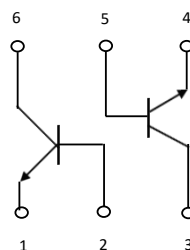
SOT363 Top View

Marking Information



"K6N" = Product Type Marking Code

Device Schematic & PIN Configuration



Pin Assignment

1	Emitter 1
2	Base 1
3	Collector 2
4	Emitter 2
5	Base 2
6	Collector 1

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	200	mA
Collector Power Dissipation	P_C	200	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

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

Parameter	Test Conditions	Symbol	Min	Max	Unit
Collector-Base Breakdown Voltage	$I_C = 10\mu\text{A}, I_E = 0$	$V_{(BR)CBO}$	60	-	V
Collector-Emitter Breakdown Voltage	$I_C = 1\text{mA}, I_B = 0$	$V_{(BR)CEO}$	40	-	
Emitter-Base Breakdown Voltage	$I_E = 10\mu\text{A}, I_C = 0$	$V_{(BR)EBO}$	5	-	
Collector Cut-Off Current	$V_{CB} = 30\text{V}, I_E = 0$	I_{CBO}	-	50	nA
Emitter Cut-Off Current	$V_{EB} = 5\text{V}, I_C = 0$	I_{EBO}	-	50	
DC Current Gain	$V_{CE} = 1\text{V}, I_C = 0.1\text{mA}$	$h_{FE(1)}$	40	-	-
	$V_{CE} = 1\text{V}, I_C = 1\text{mA}$	$h_{FE(2)}$	70	-	
	$V_{CE} = 1\text{V}, I_C = 10\text{mA}$	$h_{FE(3)}$	100	300	
	$V_{CE} = 1\text{V}, I_C = 50\text{mA}$	$h_{FE(4)}$	60	-	
	$V_{CE} = 1\text{V}, I_C = 100\text{mA}$	$h_{FE(5)}$	30	-	
Collector-Emitter Saturation Voltage	$I_C = 10\text{mA}, I_B = 1\text{mA}$	$V_{CE(sat)1}$	-	0.2	V
	$I_C = 50\text{mA}, I_B = 5\text{mA}$	$V_{CE(sat)2}$	-	0.3	V
Base-Emitter Saturation Voltage	$I_C = 10\text{mA}, I_B = 1\text{mA}$	$V_{BE(sat)1}$	0.65	0.85	V
	$I_C = 50\text{mA}, I_B = 5\text{mA}$	$V_{BE(sat)2}$	-	0.95	V
Transition Frequency	$V_{CE} = 20\text{V}, I_C = 10\text{mA}, F = 100\text{MHz}$	f_T	300	-	MHz
Delay Time	$V_{CC} = 3\text{V}, V_{BE}(\text{OFF}) = -0.5\text{V}, I_C = 10\text{mA}$	t_d	-	35	nS



Rating and Characteristic Curves

FIG.1 - Static Characteristic

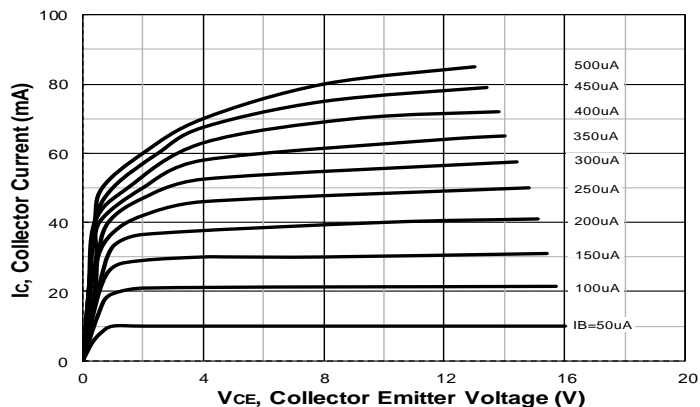


FIG.2 - $h_{FE} - I_C$

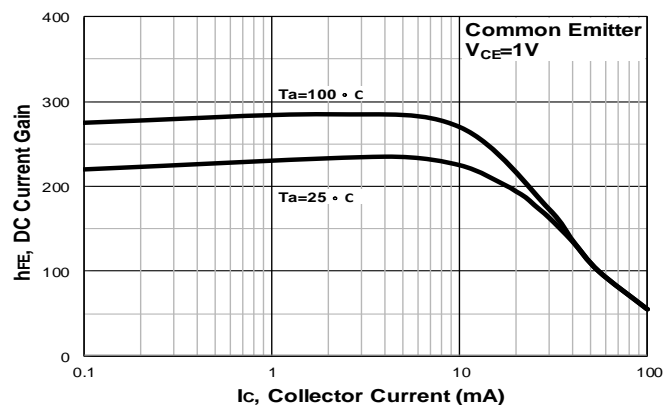


FIG.3 - $V_{CEsat} - I_C$

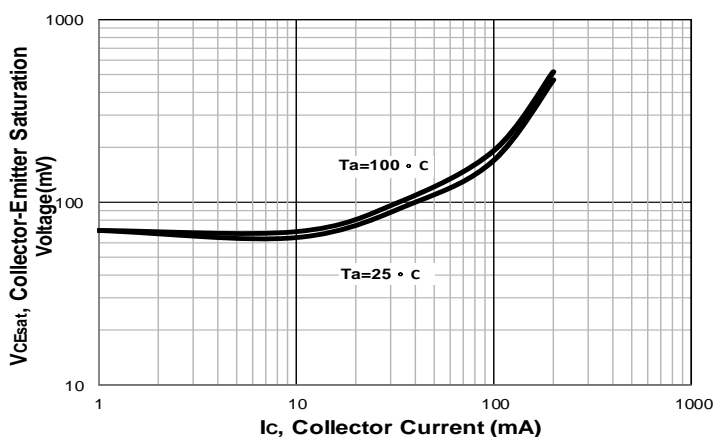


FIG.4 - $V_{BEsat} - I_C$

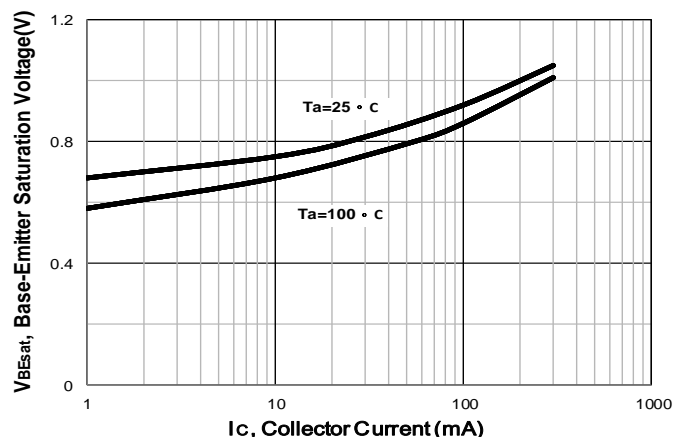


FIG.5 - $V_{BE} - I_C$

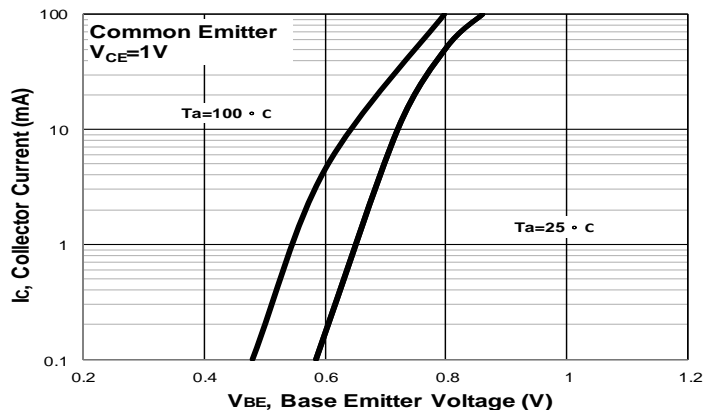
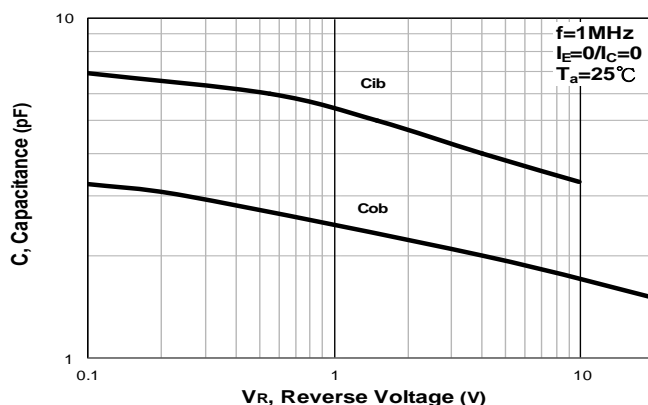


FIG.6 - $C_{ob}/C_{ib} - V_{CB}/V_{EB}$





Rating and Characteristic Curves

FIG.7 - P_c - T_a

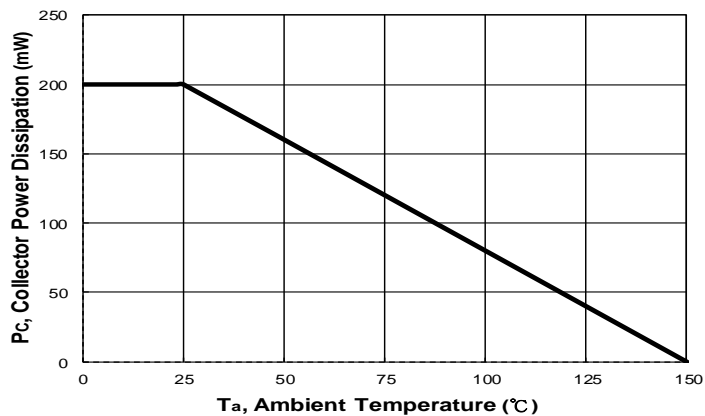
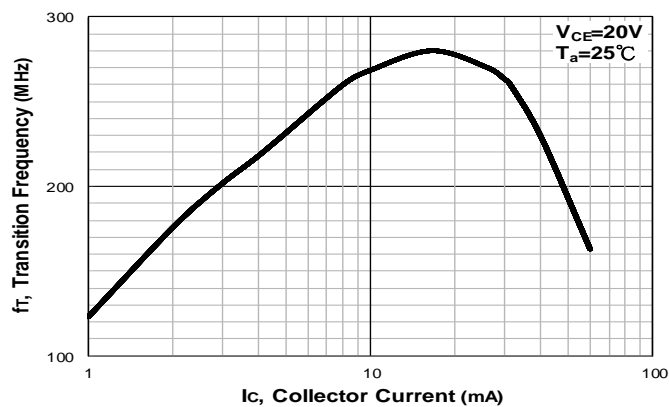
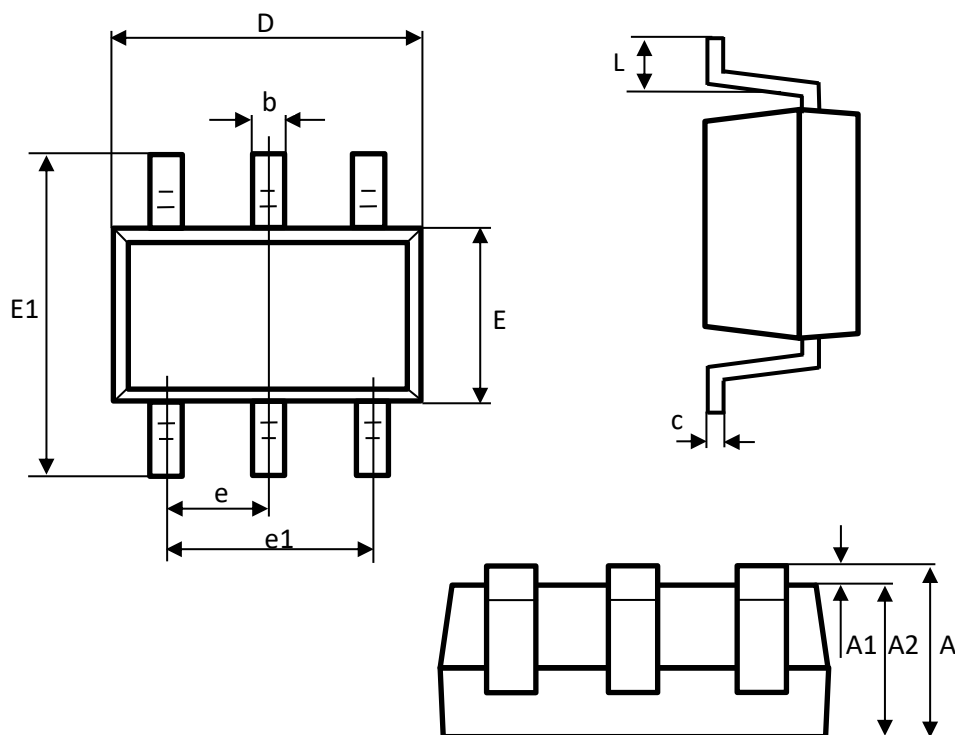


FIG.8 - f_T - I_c



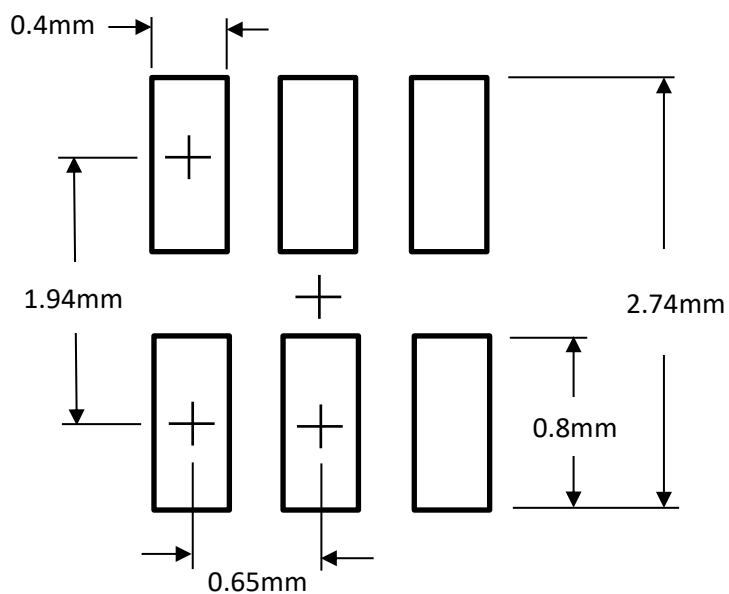


Package Outline Dimensions



SOT363 Package		
Dim	Min	Max
A	0.90	1.10
A1	0.00	0.10
A2	0.90	1.00
b	0.15	0.35
c	0.08	0.15
D	2.00	2.20
E	1.15	1.35
E1	2.15	2.45
e	0.65 typ	
e1	1.20	1.40
L	0.26	0.46
All Dimensions in mm		

Suggested Soldering Pad Layout



Note:

- 1.The pad layout is for reference purposes only.
- 2.General tolerance $\pm 0.05\text{mm}$



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