



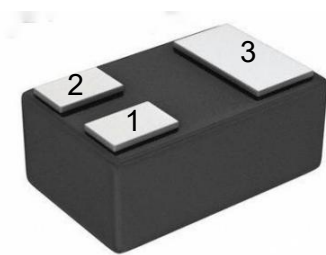
### Features

- Low profile package
- Ideal for automated placement
- Complementary to MMBT2907ALP4 (PNP).
- Power Dissipation of 300mW
- High Stability and High Reliability
- RoHS Compliant

### Mechanical Data

- Package: DFN1006-3L
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Tape Reel :10000pcs

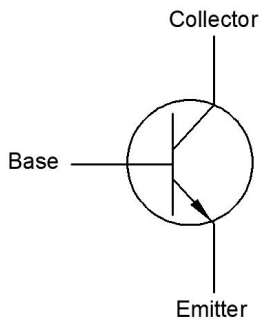
### Appearance & Symbol



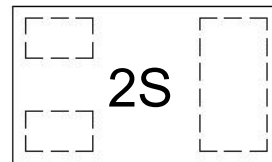
Package: DFN1006-3L  
1: Base  
2: Emitter  
3: Collector

### Applications

- amplifying signal
- Electronic switch
- Oscillating circuit
- variable resistance



### Marking Information



2S= Marking Code

## Absolute Maximum Ratings (T=25°C unless otherwise noted)

Parameter	Symbol	Value	Units
Collector-Base Voltage	$V_{CBO}$	75	V
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current - Continuous	$I_C$	600	mA
Collector Power Dissipation	$P_C$	300	mW
Thermal Resistance From Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction Temperature	$T_J$	-55 to +150	°C
Junction and Storage Temperature	$T_{STG}$	-55 to +150	°C

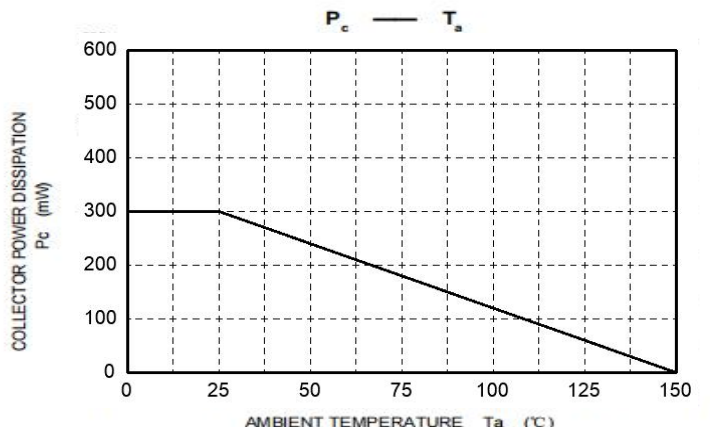
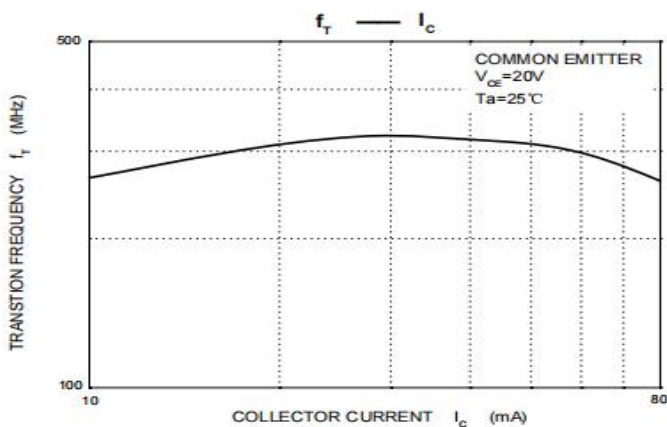
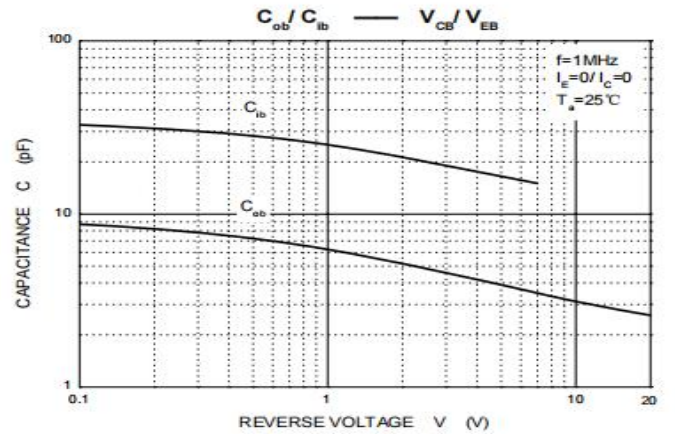
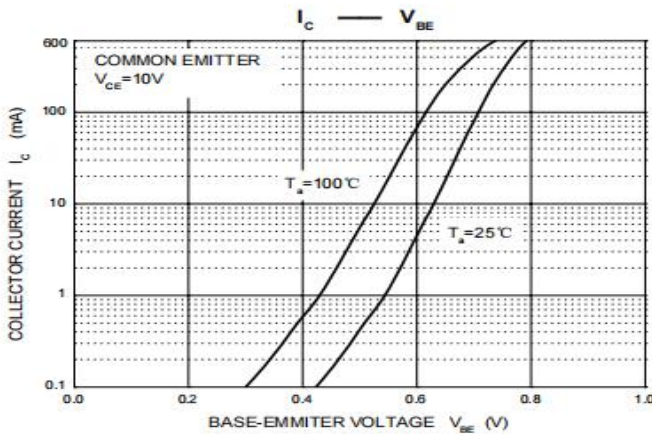
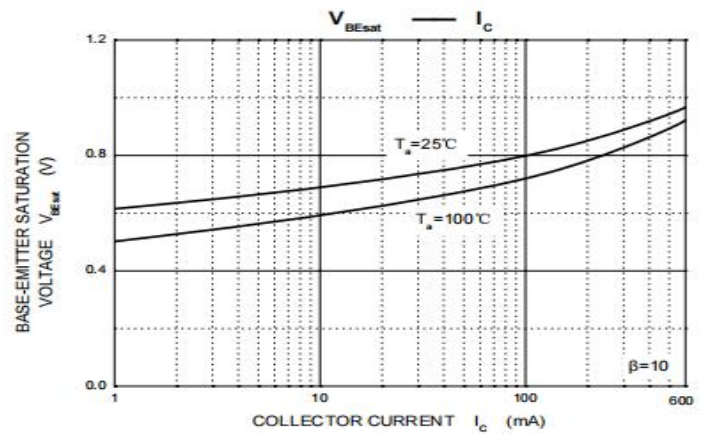
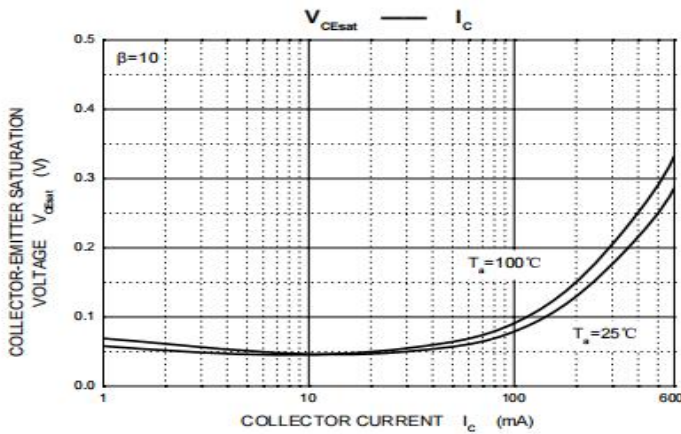
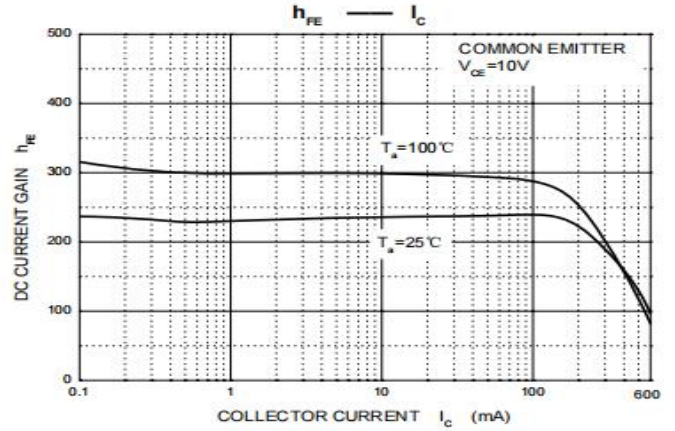
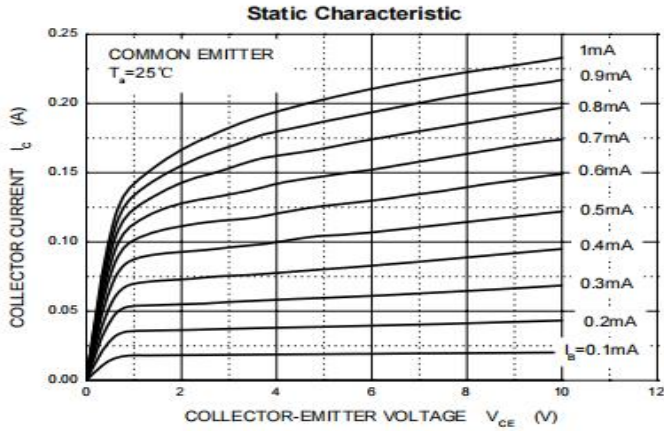
## Electrical Characteristics (T=25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	75		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6		V
Collector cut-off current	$I_{CBO}$	$V_{CB}=60V, I_E=0$		10	nA
Collector cut-off current	$I_{CEX}$	$V_{CE}=30V, V_{BE(off)}=3V$		10	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=3V, I_C=0$		100	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=10V, I_C=150mA$	100	300	
	$h_{FE(2)}$	$V_{CE}=10V, I_C=0.1mA$	40		
	$h_{FE(3)}$	$V_{CE}=10V, I_C=500mA$	42		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$		1	V
		$I_C=150mA, I_B=15mA$		0.3	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=50mA$		2.0	V
		$I_C=150mA, I_B=15mA$		1.2	V
Transition frequency	$f_T$	$V_{CE}=20V, I_C=20mA, f=100MHz$	300		MHz
Delay time	$t_d$	$V_{CC}=30V, V_{BE(off)}=0.5V$ $I_C=150mA, I_{B1}=15mA$		10	ns
Rise time	$t_r$			25	ns
Storage time	$t_s$	$V_{CC}=30V, I_C=150mA,$ $I_{B1}=I_{B2}=15mA$		225	ns
Fall time	$t_f$			60	ns

 \* Pulse Test : pulse width  $\leq 300\mu s$  , duty cycle  $\leq 2\%$ .

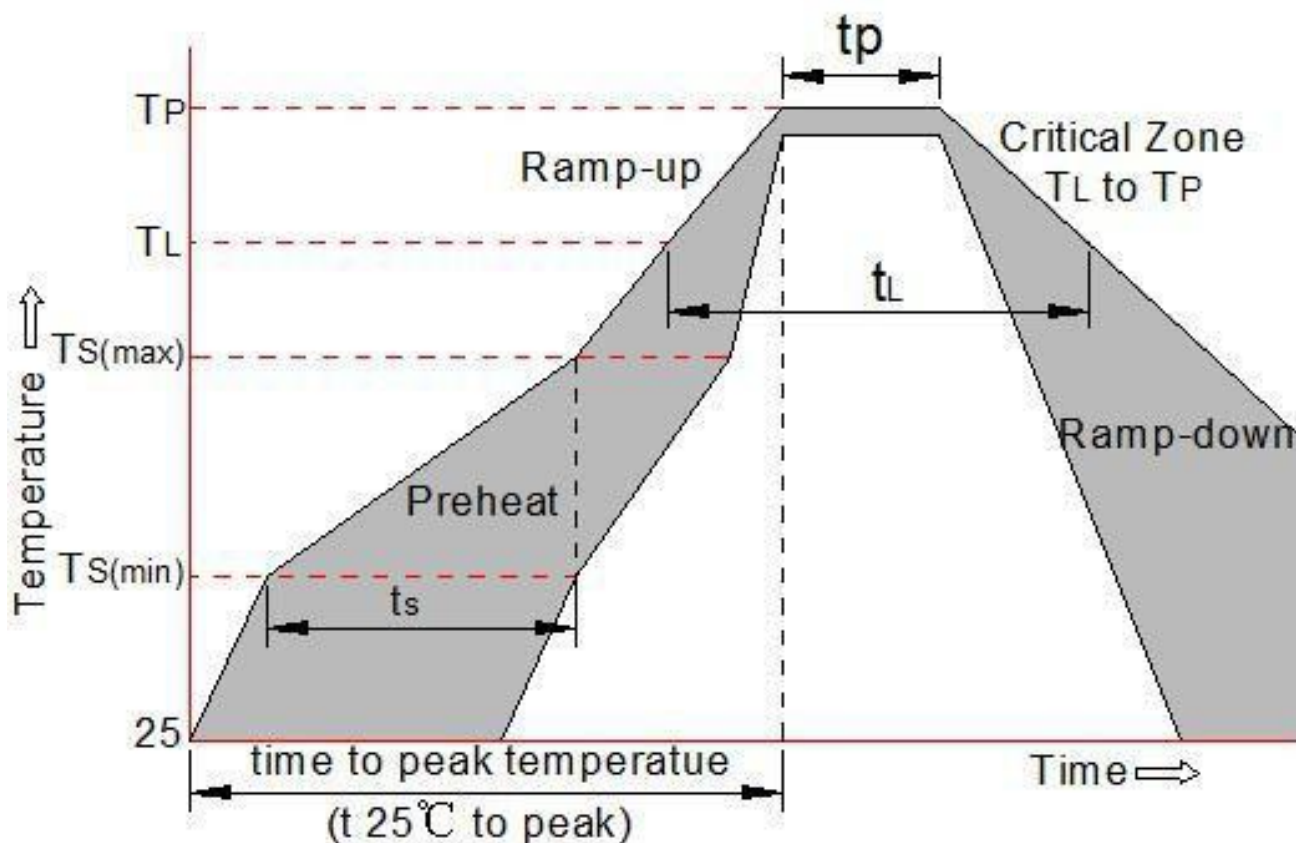


Typical Characteristics

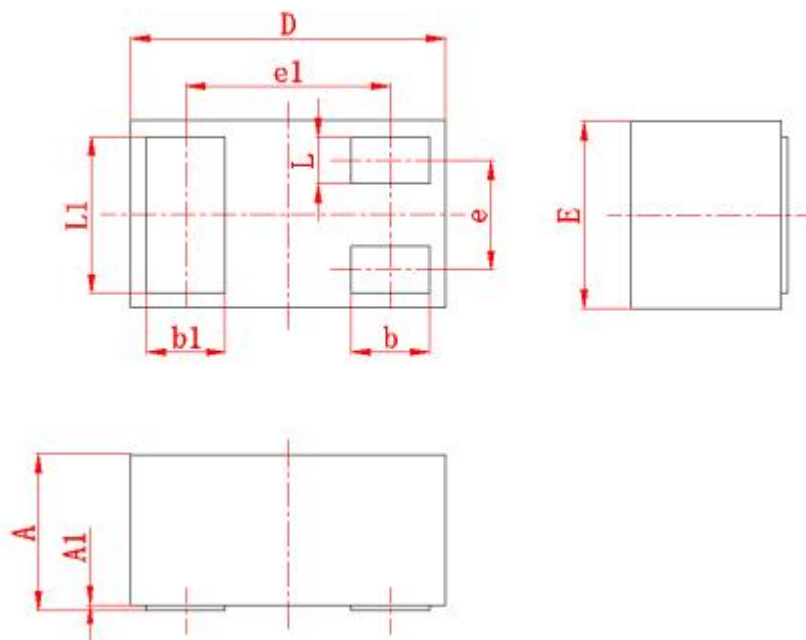


Soldering parameters

Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) ( $t_s$ )	60-180 secs.
Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ ) (Liquid us)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_p$ )		8 min. Max
Do not exceed		+260°C

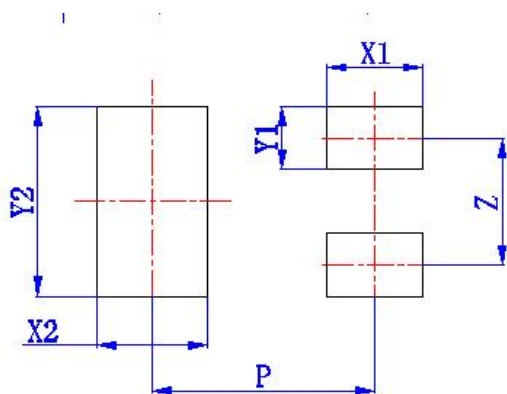


Package mechanical data



Symbol	Millimeters	
	min	max
A	0.4	0.5
A1	0	0.05
D	0.9	1.1
E	0.55	0.65
e	(0.35)	
e1	(0.65)	
b	0.2	0.3
b1	0.2	0.3
L	0.1	0.2
L1	0.45	0.55

Suggested Land Pattern



Symbol	Dimension in Millimeters
	typ
X1	(0.3)
X2	(0.35)
Y1	(0.2)
Y2	(0.6)
Z	(0.4)
P	(0.7)