

### Features

- Complementary to MMBT2907A
- Power dissipation of 300mW
- High Conductance
- Surface mount package ideally Suited for Automatic Insertion
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

### Mechanical Data

- Case: SOT-23  
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

### Classification Of $h_{FE}$

RANK	RANGE
L	100-200
H	200-300

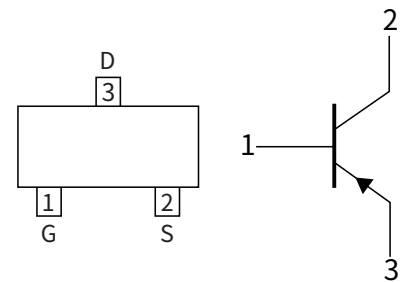
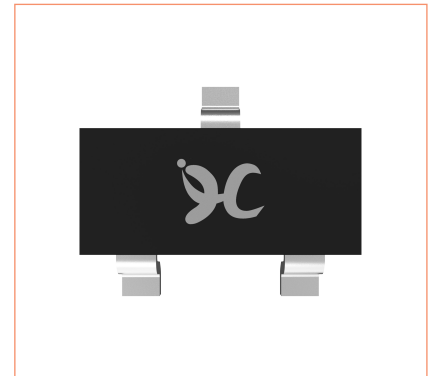
### Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Collector-Base Voltage	$V_{CBO}$	V	-60
Collector-Emitter Voltage	$V_{CEO}$		-60
Emitter-Base Voltage	$V_{EBO}$		-5
Collector Current	$I_C$	A	-0.6
Collector Power Dissipation	$P_C$	mW	300
Junction Temperature	$T_j$	°C	-55 ~+150
Storage Temperature	$T_{stg}$	°C	-55 ~+150
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	°C /W	417

### Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	30000	120000	7"

### SOT-23



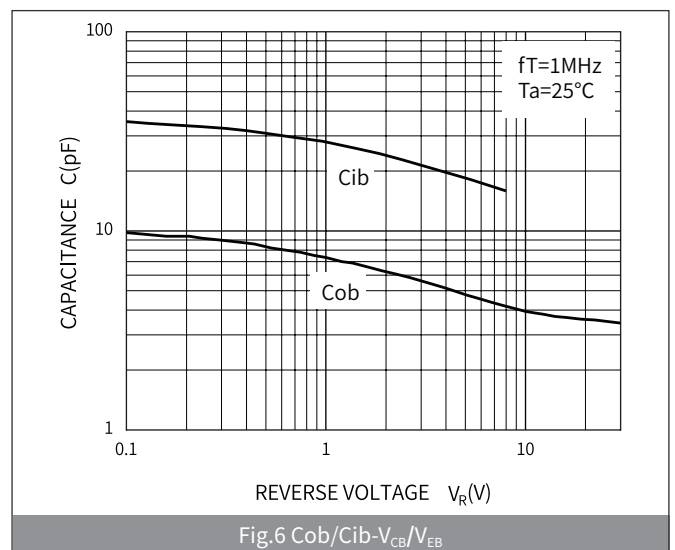
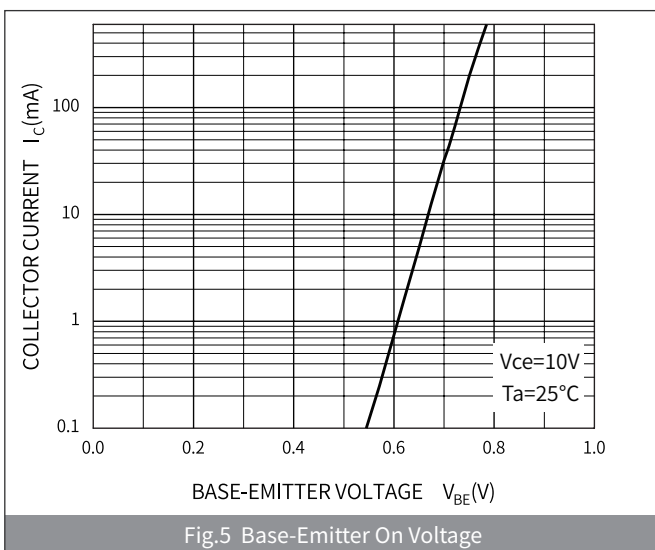
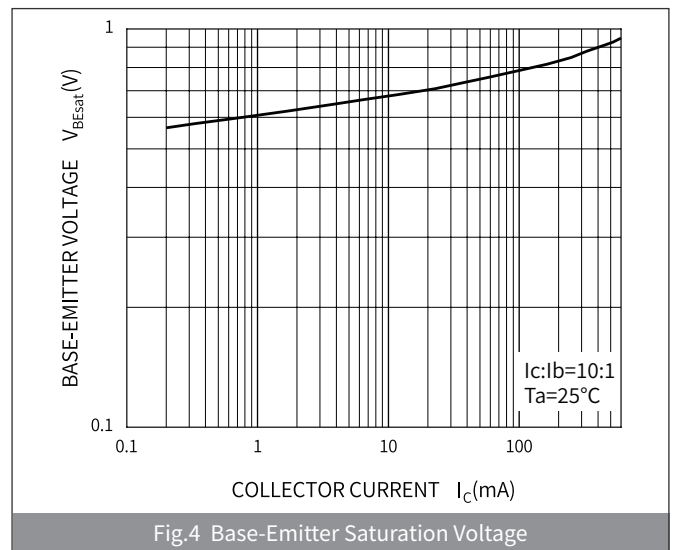
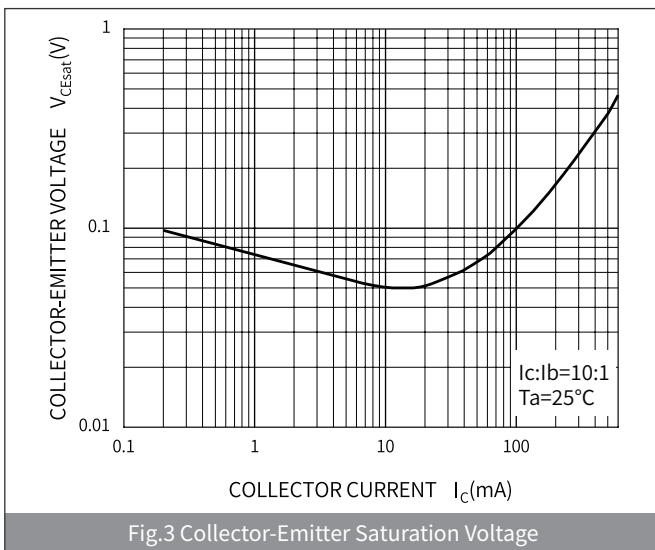
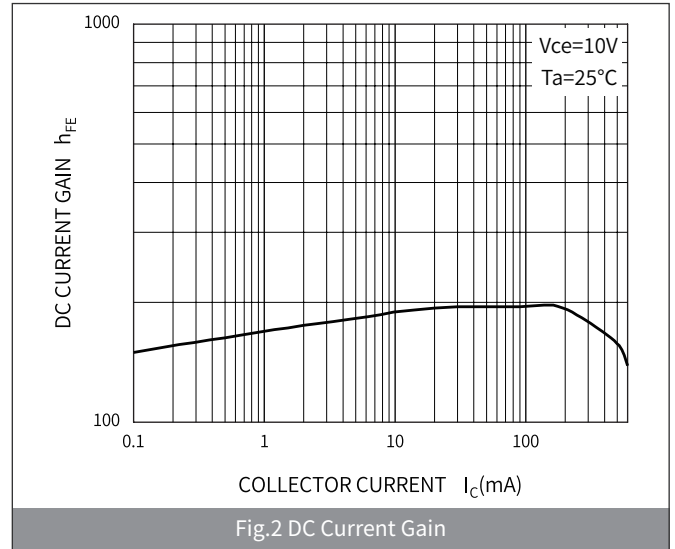
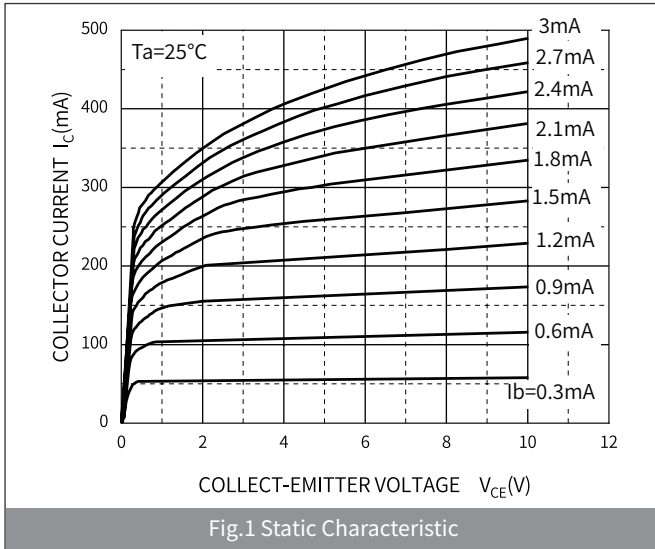
**Electrical Characteristics** (Ta=25°C Unless otherwise noted)

PARAMETER	SYMBOL	UNIT	Condition	Min	Max
Collector-Emitter Voltage Collector-base breakdown voltage	$V_{CBO}$	V	$I_C = -10\mu A, I_E = 0$	-60	—
Collector-emitter breakdown voltage	$V_{CEO}$		$I_C = -10mA, I_B = 0$	-60	—
Emitter-base breakdown voltage	$V_{EBO}$		$I_C = -10\mu A, I_C = 0$	-5	—
Collector-base cut-off current	$I_{CBO}$	$\mu A$	$V_{CB} = -50V, I_E = 0$	—	-0.1
Collector-emitter cut-off current	$I_{CEX}$		$V_{CE} = -30V, V_{EB} = -0.5V$	—	-0.05
DC Current Gain	$h_{FE}$	—	$I_C = -0.1mA, V_{CE} = -10V$	75	—
			$I_C = -1mA, V_{CE} = -10V$	100	—
			$I_C = -10mA, V_{CE} = -10V$	100	—
			$V_{CE} = -10V, I_C = -150mA$	100	300
			$V_{CE} = -10V, I_C = -500mA$	50	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C = -150mA, I_B = -15mA$	—	-0.4
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		$I_C = -500mA, I_B = -50mA$	—	-1.6
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		$I_C = -150mA, I_B = -15mA$	—	-1.3
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		$I_C = -500mA, I_B = -50mA$	—	-2.6
Delay time	$t_d$	nS	$V_{CC} = -30V, I_C = -150mA, I_{B1} = -15mA$	—	10
Rise time	$t_r$			—	40
Storage time	$t_s$		$V_{CC} = -6V, I_C = -150mA, I_{B1} = I_{B2} = -15mA$	—	80
Fall time	$t_f$			—	30

**Small-signal Characteristics**

ITEM	SYMBOL	Condition	UNIT	Min	Max
Transition frequency	$f_T$	$I_C = 20mA, V_{CE} = 20V, f = 100MHz$	MHz	200	—

► Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



**► Package Outline Dimensions (SOT-23)**

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	-	0.10	-	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.550REF		0.022REF	
L1	0.30	0.50	0.012	0.020
$\theta$	-	8°	-	8°

**► Suggested Pad Layout**

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.80	-	0.031	-
K	-	0.90	-	0.035
M	2.00	-	0.078	-
N	-	1.90	-	0.074