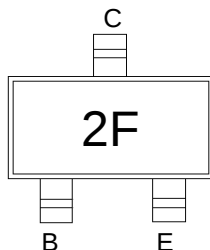


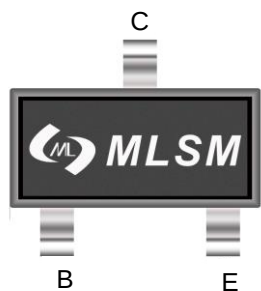
Features

- Complementary to NPN Type (MMBT2222AT)
- Small Package

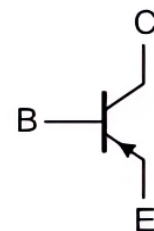
MARKING: 2F



Marking and pin assignment



SOT-523 top view



Schematic diagram



Halogen-Free

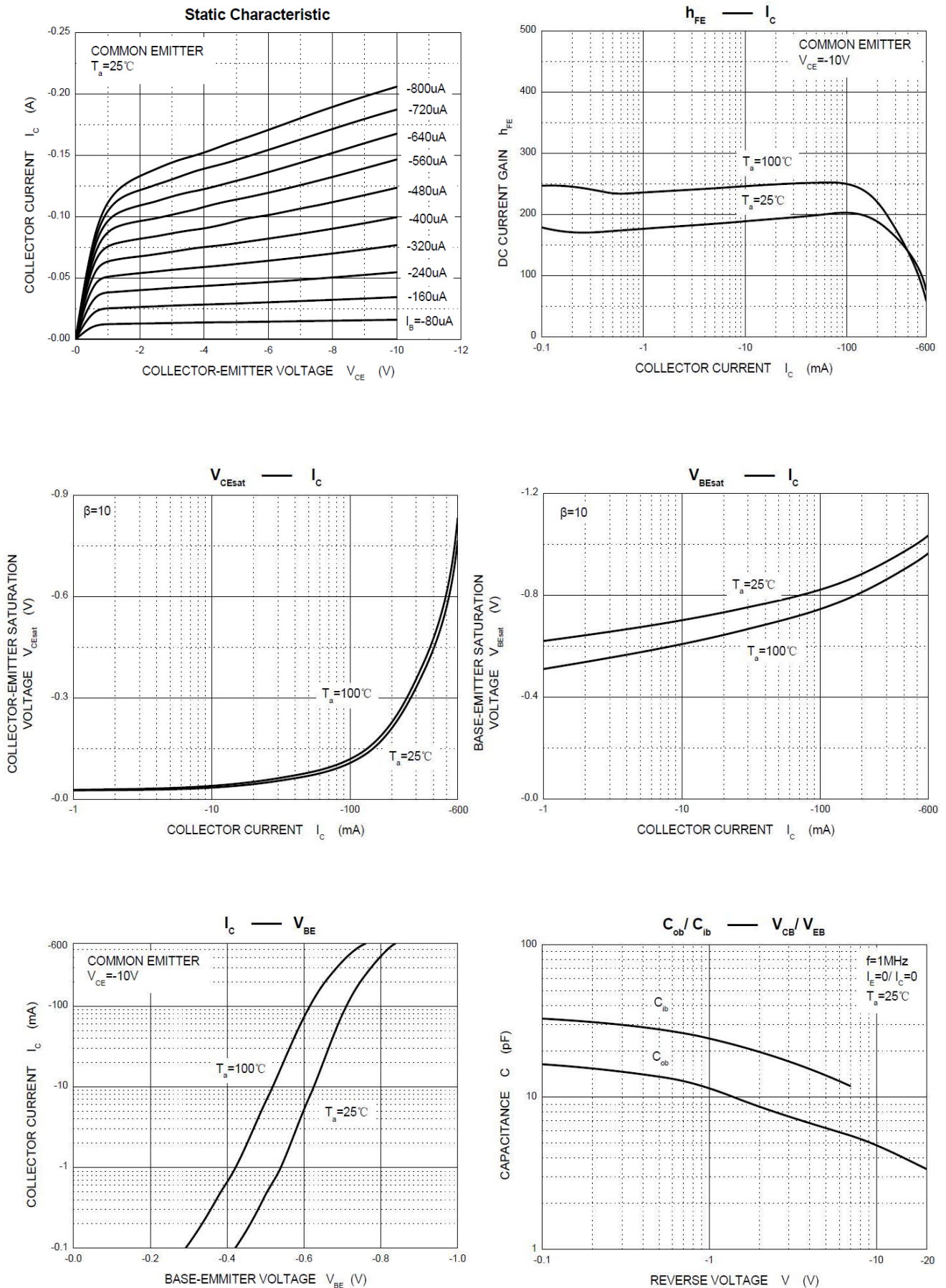
MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Limit	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-600	mA
P_C	Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	833	°C/W
T_J, T_{STG}	Operation Junction and Storage Temperature Range	-55~+150	°C

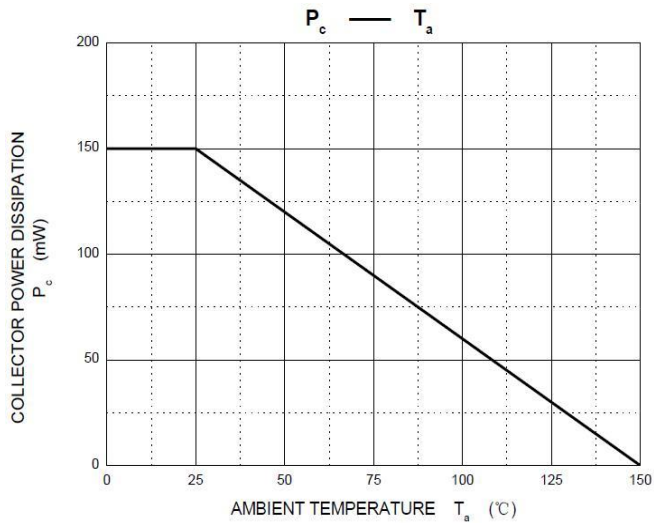
ELECTRICAL CHARACTERISTICS(Ta=25°C unless otherwise specified)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -10\mu A, I_E = 0$	-60	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = -10mA, I_B = 0$	-60	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -10\mu A, I_C = 0$	-5	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB} = -50V, I_E = 0$	--	--	-10	nA
I_{EBO}	Emitter cut-off current	$V_{EB} = -5V, I_C = 0$	--	--	-10	nA
h_{FE1}	DC current gain	$V_{CE} = -10V, I_C = -0.1mA$	75	--	--	
h_{FE2}		$V_{CE} = -10V, I_C = -1mA$	100	--	--	
h_{FE3}		$V_{CE} = -10V, I_C = -10mA$	100	--	--	
h_{FE4}		$V_{CE} = -10V, I_C = -150mA$	100	--	300	
h_{FE5}		$V_{CE} = -10V, I_C = -500mA$	50	--	--	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C = -150mA, I_B = -15mA$	--	--	-0.4	V
		$I_C = -500mA, I_B = -50mA$	--	--	-1.6	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C = -150mA, I_B = -15mA$	--	--	-1.3	V
		$I_C = -500mA, I_B = -50mA$	--	--	-2.6	V
f_T	Transition frequency	$V_{CE} = -20V, I_C = -50mA, f = 100MHz$	200	--	--	MHz
C_{ob}	Output capacitance	$V_{CB} = -10V, I_E = 0, f = 1MHz$	--	--	8	pF
C_{ib}	Input capacitance	$V_{EB} = -2V, I_C = 0, f = 1MHz$	--	--	30	pF
t_d	Delay time	$V_{CC} = -30V, I_C = -150mA, I_{B1} = -15mA$	--	--	10	ns
t_r	Rise time		--	--	40	ns
t_s	Storage time	$V_{CC} = -6V, I_C = -150mA, I_{B1} = I_{B2} = -15mA$	--	--	225	ns
t_f	Fall time		--	--	30	ns

Typical Operating Characteristics



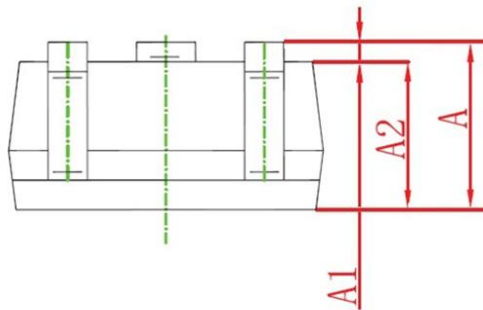
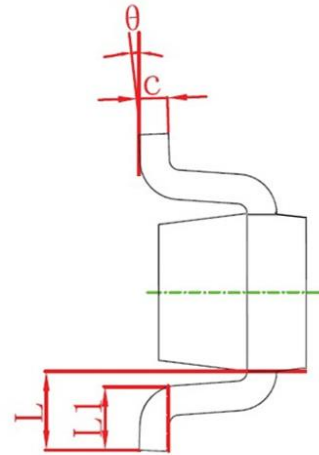
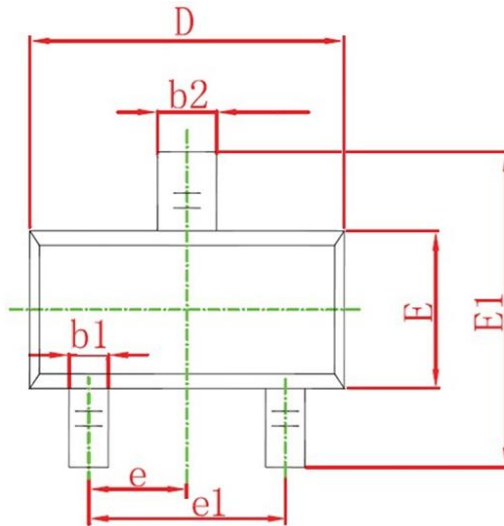
Typical Operating Characteristics



Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MMBT2907AT	SOT-523	2F	3,000	45,000	180,000	7"reel

SOT-523 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500TYP		0.020TYP	
e1	0.900	1.100	0.035	0.043
L	0.400REF		0.016REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°