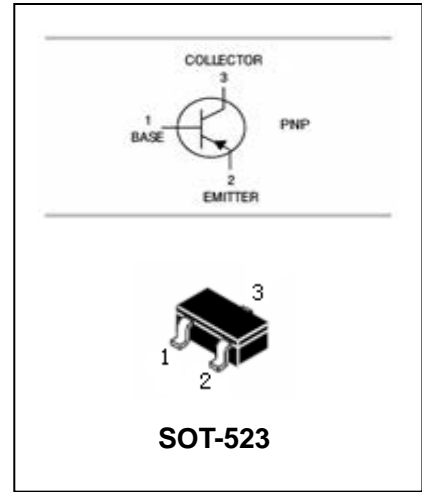




FEATURES

- Epitaxial planar die construction.
- Complementary NPN type available (MMBT2222AT).
- Ultra-Small Surface Mount Package.



ORDERING INFORMATION

Type No.	Marking	Package Code
MMBT2907AT	2F	SOT-523

MAXIMUM RATING @ Ta=25°C unless otherwise specified

SYMBOL	PARAMETER	MMBT2907AT	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 (DC)	-600	mA
P _d	Power dissipation	150	mW
R _{θJA}	Thermal resistance, junction to Ambient	833	°C/W
T _{stg}	storage temperature range	-55 to +150	°C
T _j	junction temperature	150	°C



ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakown voltage	$I_C=-10\mu A, I_E=0$	-60		
$V_{(BR)CEO}$	Collector- emitter breakown voltage	$I_C=-10mA, I_B=0$	-60		
$V_{(BR)BEO}$	Emitter-base breakown voltage	$I_E=-10\mu A, I_C=0$	-5		
I_{CBO}	Collector cut-off current	$I_E=0, V_{CB}=-50V$		-10	nA
		$I_E=0, V_{CB}=-50V, T_A=125^\circ C$		-10	μA
I_{CEX}	Collector cut-off current	$V_{CE}=-30V, V_{EB(OFF)}=-0.5V$		-50	nA
I_{BL}	Base cut-off current	$V_{CE}=-30V, V_{EB(OFF)}=-0.5V$		-50	nA
h_{FE}	DC current gain	$V_{CE}=-10V, I_C=-100\mu A$	75		
		$V_{CE}=-10V, I_C=-1mA$	100		
		$V_{CE}=-10V, I_C=-10mA$	100		
		$V_{CE}=-10V, I_C=-150mA$	100	300	
		$V_{CE}=-10V, I_C=-500mA$	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
C_{obo}	Output capacitance	$I_E=0, V_{CB}=-10V, f=1MHz$		8.0	pF
C_{ibo}	Input capacitance	$I_C=0, V_{BE}=-2V, f=1MHz$		30	pF
f_T	transition frequency	$I_C=-50mA, V_{CE}=-20V, f=100MHz$	200		MHz
t_d	Delay time	$I_C=-150mA, I_{B1}=-15mA, V_{CC}=-30V$	-	10	ns
t_r	Rise time		-	40	ns
t_s	Storage time	$V_{CC}=-6.0V, I_C=-150mA$	-	225	ns
t_f	Fall time	$I_{B1}=I_{B2}=-15mA$	-	60	ns



TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

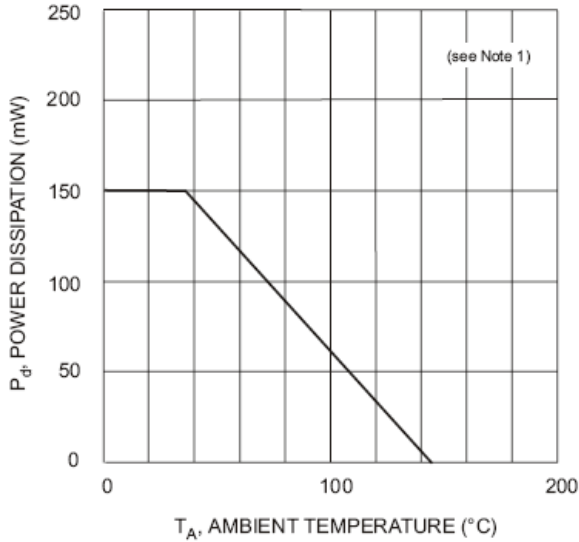


Fig. 1, Power Derating Curve

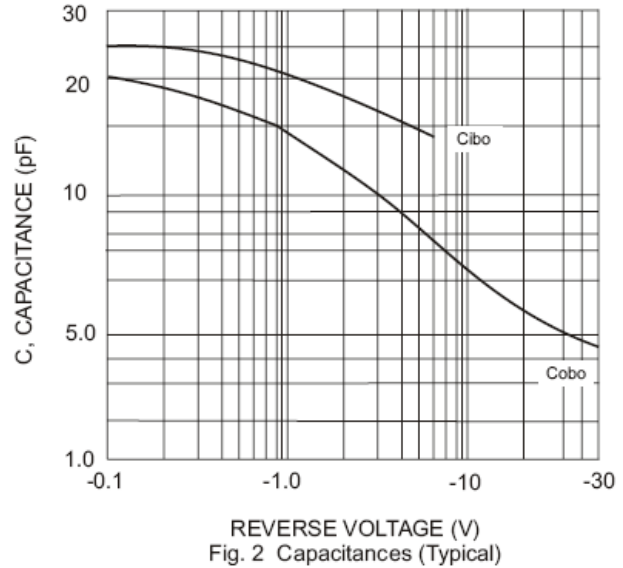


Fig. 2 Capacitances (Typical)

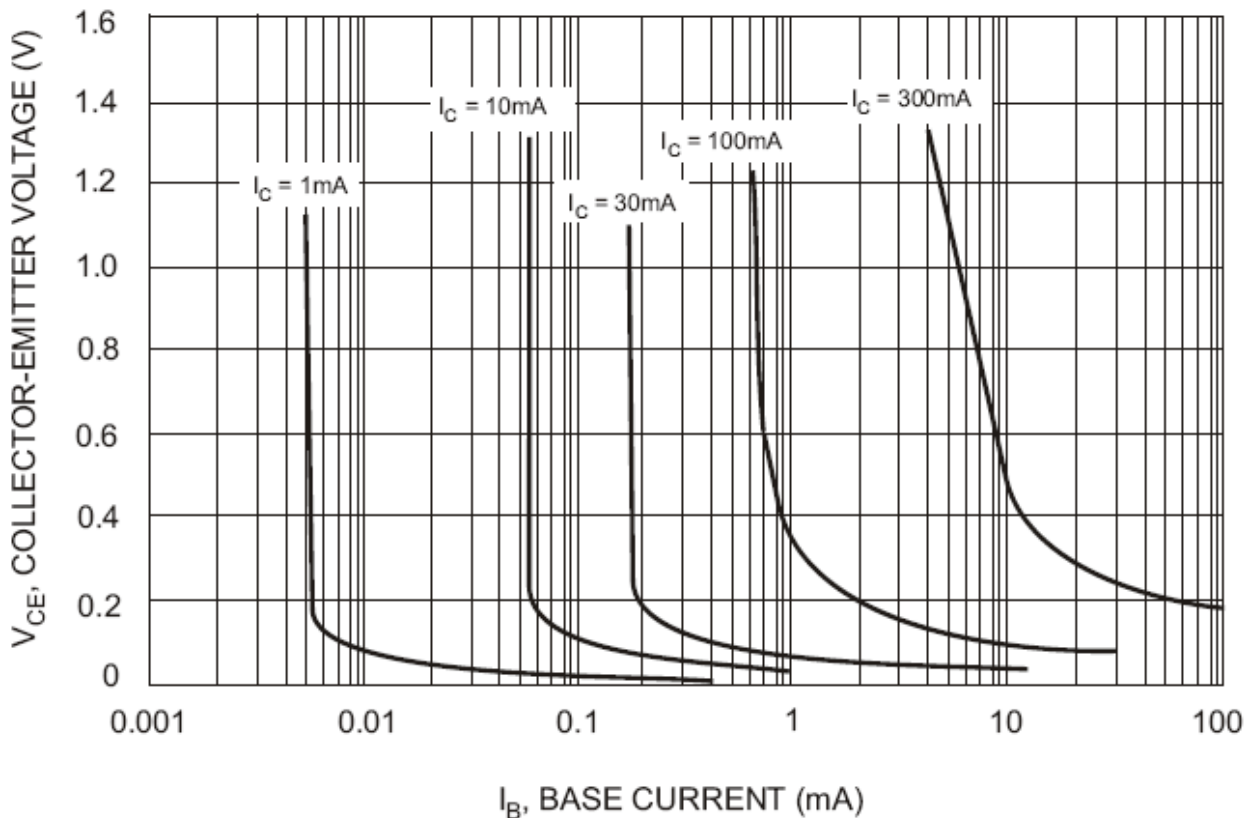


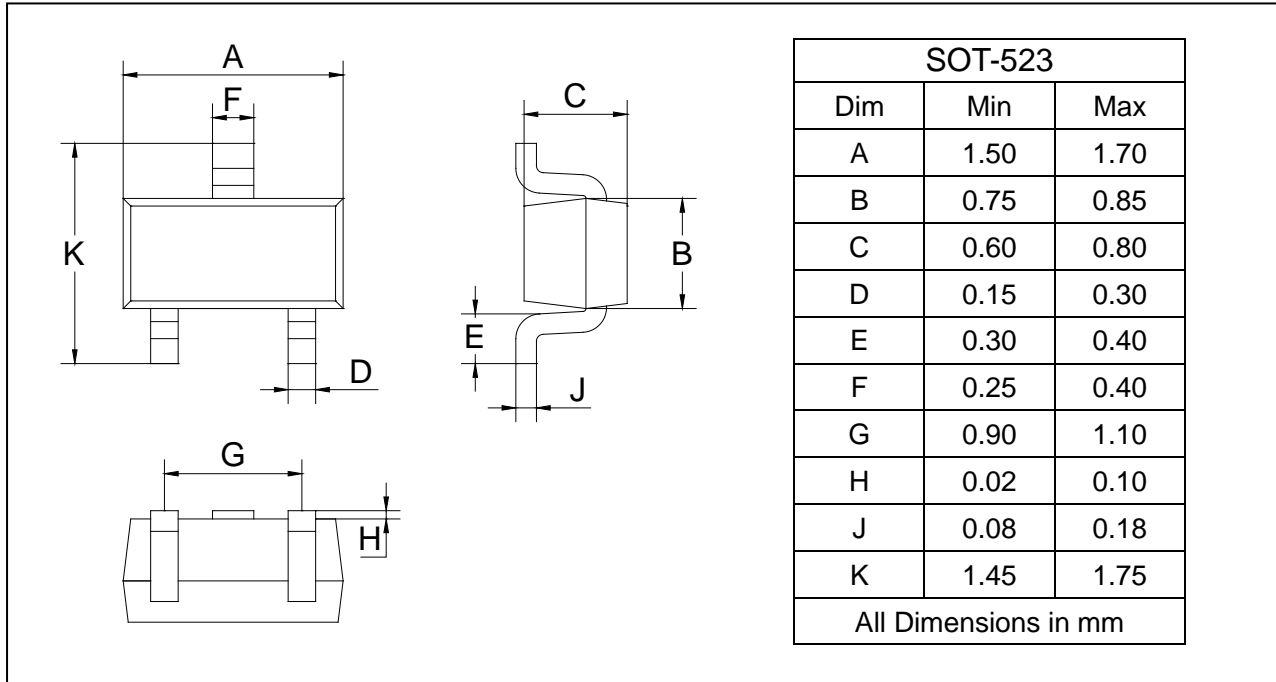
Fig. 3 Typical Collector Saturation Region



PACKAGE OUTLINE

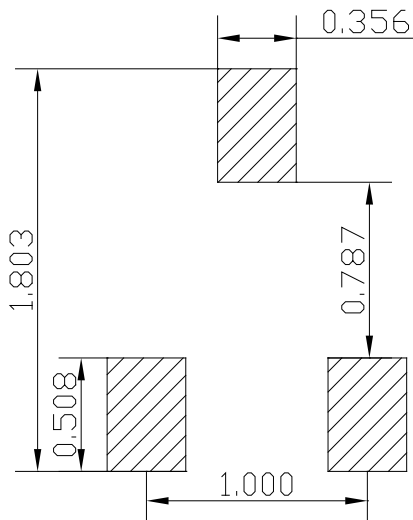
Plastic surface mounted package

SOT-523



SOLDERING FOOTPRINT

Unit : mm



Package	Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
SOT -523	3000pcs	7inch	45,000pcs	203×203×195	180,000pcs	438×438×220
SOT -523	8000pcs	7inch	120,000pcs	203×203×195	480,000pcs	438×438×220