

RoHS Compliant Product
A suffix of "-C" specifies halogen and lead free

FEATURES

- Extremely Low Saturation Voltage
- 1 Amp continuous collector current

APPLICATION

- Ideally suited for space / weight critical applications

MARKING

491

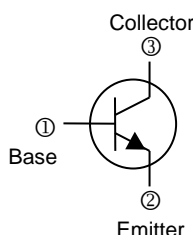
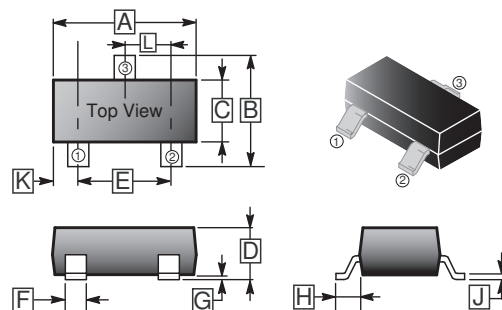
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-323	3K	7 inch

ORDER INFORMATION

Part Number	Type
MMBT491W	Lead (Pb)-free
MMBT491W-C	Lead (Pb)-free and Halogen-free

SOT-323



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.80	2.20	G	0.10 REF.	
B	1.80	2.55	H	0.525 REF.	
C	1.10	1.40	J	0.05	0.25
D	0.80	1.15	K	0.35 REF.	
E	1.20	2.00	L	0.65 TYP.	
F	0.15	0.50			

ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V _{CB0}	80	V
Collector-Emitter Voltage	V _{CEO}	60	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	I _C	1	A
Collector Power Dissipation	P _C	250	mW
Thermal Resistance from Junction-Ambient	R _{θJA}	500	°C/W
Junction, Storage Temperature Range	T _J , T _{STG}	150, -55~150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	V _{(BR)CBO}	80	-	-	V	I _C =100μA, I _E =0
Collector-Emitter Breakdown Voltage ¹	V _{(BR)CEO}	60	-	-		I _C =10mA, I _B =0
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	5	-	-		I _E =100μA, I _C =0
Collector Cut-off Current	I _{CBO}	-	-	0.1	μA	V _{CB} =60V, I _E =0
Collector cut-off current	I _{CES}	-	-	0.1		V _{CE} =60V, I _E =0
Emitter Cut-off Current	I _{EBO}	-	-	0.1		V _{EB} =4V, I _C =0
DC Current Gain ¹	h _{FE}	100	-	-		V _{CE} =5V, I _C =1mA
		100	-	300		V _{CE} =5V, I _C =500mA
		80	-	-		V _{CE} =5V, I _C =1A
		30	-	-		V _{CE} =5V, I _C =2A
Collector-Emitter Saturation Voltage ¹	V _{CE(sat)}	-	-	0.25	V	I _C =0.5A, I _B =50mA
		-	-	0.5		I _C =1A, I _B =100mA
Base-Emitter Saturation Voltage ¹	V _{BE(sat)}	-	-	1.1	V	I _C =1A, I _B =100mA
Base-Emitter Voltage ¹	V _{BE(on)}	-	-	1	V	I _C =1A, V _{CE} =5V
Transition Frequency	f _T	-	150	-	MHz	V _{CE} =10V, I _C =50mA, f=100MHz
Collector Output Capacitance	C _{ob}	-	10	-	pF	V _{CB} =10V, I _E =0, f=1MHz

Note:

1. Pulse test: pulse width ≤ 300μs, duty cycle ≤ 2%.

TYPICAL CHARACTERISTICS

Static Characteristic

