Elektronische Bauelemente

MMBT491

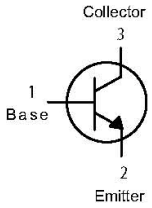
NPN Silicon
General Purpose Transistor

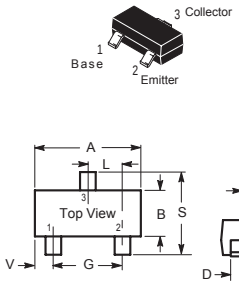
RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

Low equivalent on-resistance

MARKING: 491





SOT-23		
Dim	Min	Max
A	2.800	3.040
B	1.200	1.400
C	0.890	1.110
D	0.370	0.500
G	1.780	2.040
H	0.013	0.100
J	0.085	0.177
K	0.450	0.600
L	0.890	1.020
S	2.100	2.500
V	0.450	0.600
All Dimension in mm		

ABSOLUTE MAXIMUM RATINGS at Ta = 25°C

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	1	A
Collector Power Dissipation	P_C	500	mW
Junction & Storage temperature	T_J, T_{STG}	150, -55~150	°C

ELECTRICAL CHARACTERISTICS at Ta = 25°C

Parameter	Symbol	Min.	Max.	Unit	Test Conditions
Collector-base breakdown voltage	$V_{(BR)CBO}$	80	-	V	I_C=100μA,I_E=0
Collector-emitter breakdown voltage	$V_{(BR)CEO}$[1]	60	-	V	I_C=10mA,I_B=0
Emitter-base breakdown voltage	$V_{(BR)EBO}$	5	-	V	I_E=100μA,I_C=0
Collector cut-off current	I_{CBO}	-	0.1	μA	V_{CB}=60V, I_E=0
Emitter cut-off current	I_{EBO}	-	0.1	μA	V_{EB}=4V, I_C=0
DC current gain	$h_{FE(1)}$	100	-		V_{CE}=5V,I_C=1mA
	$h_{FE(2)}$[1]	100	300		V_{CE}=5V,I_C=500mA
	$h_{FE(3)}$[1]	80	-		V_{CE}=5V,I_C=1A
	$h_{FE(4)}$[1]	30	-		V_{CE}=5V,I_C=2A
Collector-emitter saturation voltage	$V_{CE(sat)1}$[1]	-	0.25	V	I_C=500mA, I_B=50mA
	$V_{CE(sat)2}$[1]	-	0.5	V	I_C=1A, I_B=100mA
Base-emitter saturation voltage	$V_{BE(sat)}$[1]	-	1.1	V	I_C=1A, I_B=100mA
	V_{BE}[1]	-	1	V	I_C=1A, V_{CE}=5V
Transition frequency	f_T	150		MHz	V_{CE} = 10V, I_C = 50mA, f = 100MHz
Output Capacitance	C_{OB}	-	10	pF	V_{CB} = 10V, f = 1.0MHz, I_E = 0

Note: 1. Measured under pulsed conditions, Pulse width = 300 μs, Duty cycle ≤ 2%.

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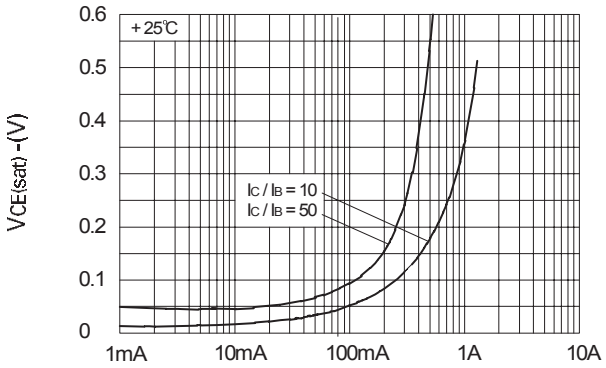
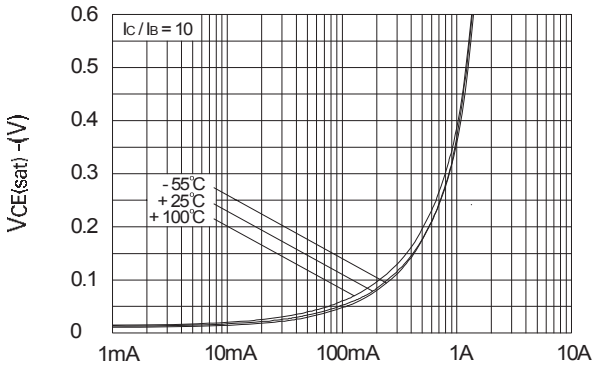
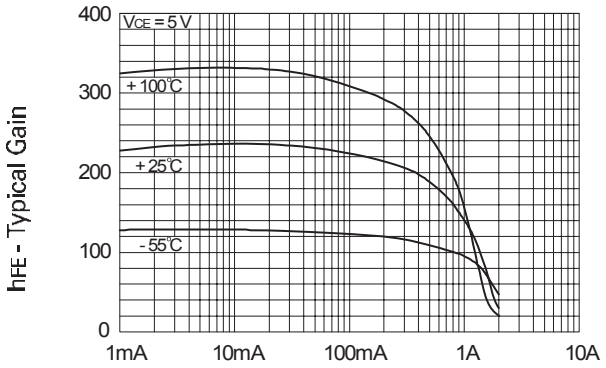
CHARACTERISTIC CURVES



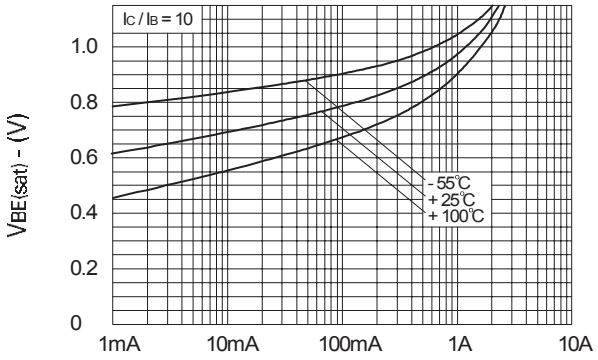
VCE(sat) vs IC



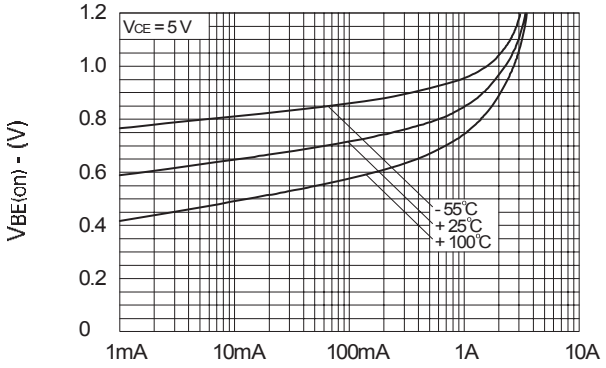
VCE(sat) vs IC



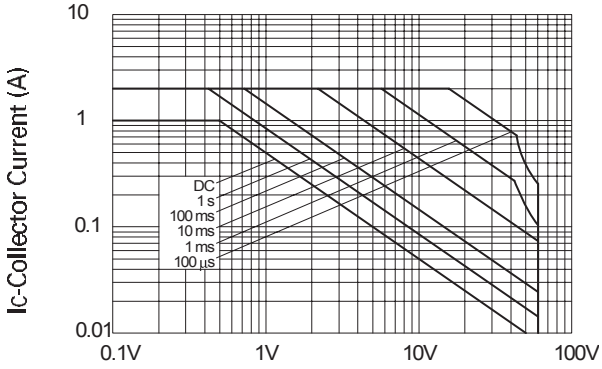
hFE vs IC



VBE(sat) vs IC



VBE(on) vs IC



Safe Operating Area