DC COMPONENTS CO., LTD.

DISCRETE SEMICONDUCTORS

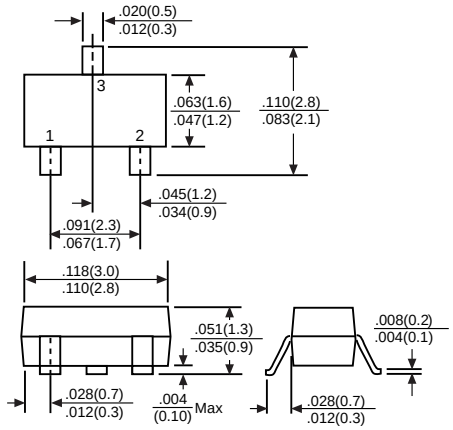
FMMT491

TECHNICAL SPECIFICATIONS OF NPN EPITAXIAL PLANAR TRANSISTOR

Description

Low equivalent on-resistance

SOT-23



Dimensions in inches and (millimeters)

Pinning

1 = Base
2 = Emitter
3 = Collector

Marking: 491

Absolute Maximum Ratings(T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	1	A
Peak Pulse Current	I_{CM}	2	A
Total Power Dissipation	P_D	250	mW
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics

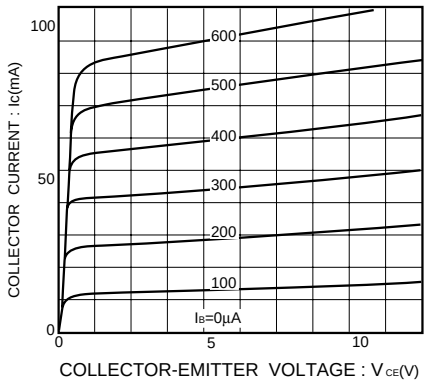
(Ratings at 25°C ambient temperature unless otherwise specified)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Volatge	BV_{CBO}	80	-	-	V	I_C=100μA
Collector-Emitter Breakdown Voltage	BV_{CEO}	60	-	-	V	I_C=10mA
Emitter-Base Breakdown Volatge	BV_{EBO}	5	-	-	V	I_E=100μA
Collector Cutoff Current	I_{CBO}	-	-	100	nA	V_{CB}=60V, I_E=0V
Collector-Emitter Saturation Voltage(1)	$V_{CE(sat)1}$	-	-	0.25	V	I_C=500mA, I_B=50mA
	$V_{CE(sat)2}$	-	-	0.5	V	I_C=1000mA, I_B=100mA
Base-Emitter Saturation Voltage (1)	$V_{BE(sat)1}$	-	-	1.1	V	I_C=1000mA, I_B=100mA
Base-Emitter Voltage(1)	V_{BE}	-	-	1	V	V_{CE}=5V, I_E=1A
DC Current Gain(1)	h_{FE1}	100	-	-	-	I_C=1mA, V_{CE}=5V
	h_{FE2}	100	-	300	-	I_C=500mA, V_{CE}=5V
	h_{FE3}	80	-	-	-	I_C=1A, V_{CE}=5V
	h_{FE4}	30	-	-	-	I_C=2A, V_{CE}=5V
Transition Frequency	f_T	150	-	-	MHz	I_C=20mA, V_{CE}=10V, f=100MHz
Output Capacitance	C_{ob}	-	-	10	pF	V_{CB}=5V, f=1MHz

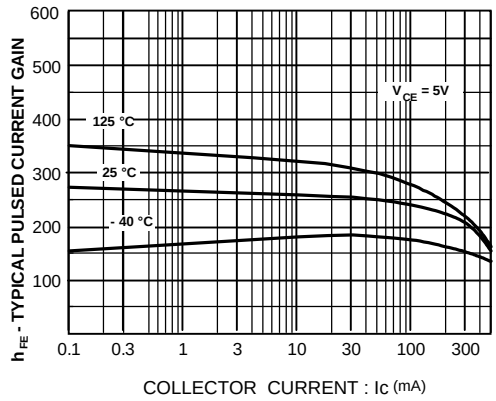
(1)Pulse Test: Pulse Width ≧380μs, Duty Cycle ≧2%

Electrical Characteristic Curves

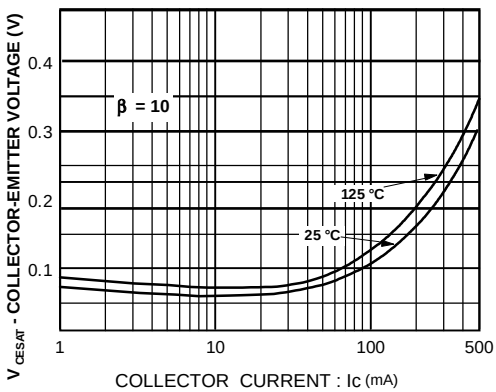
Typical Output Characteristics



DC Current Transfer Ratio vs.
Collector Current



Collector Emitter Saturation vs.
Collector Current



Gain bandwidth product
vs. collector current