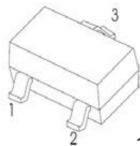


FEATURES

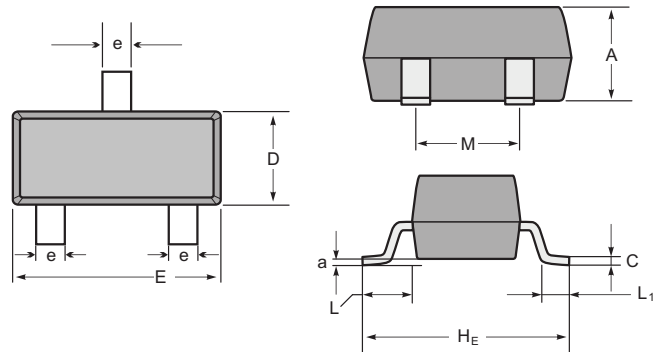
- High saturation voltage
- Complementary to FM491
- Excellent H_{FE} Linearity
- $R_{SAT} = 188m\Omega$ for a low equivalent on-resistance
- h_{FE} characterised up to -2A for high current gain hold up



1.BASE
2.EMITTER
3.COLLECTOR

ORDERING INFORMATION

Type No.	Marking	Package Code
FM591	591	SOT-23



SOT-23 mechanical data

UNIT		A	C	D	E	H _E	e	M	L	L ₁	a
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-80	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-1	A
I_{CM}	Collector Current -Peak	-2	A
P_D	Power Dissipation *1	500	mW
$R_{\theta JA}$	Thermal Resistance Junction-to-Air *2	191	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-to-Case *2	74	°C/W
$R_{\theta JL}$	Thermal Resistance Junction-to-Lead *2	45	°C/W
T_J, T_{STG}	Junction and Storage Temperature	-55 to +150	°C

Notes:

1. For a device mounted with the collector lead on 15mm × 15mm 1oz copper that is on a single-sided FR-4 PCB; device is measured under still air conditions whilst operating in a steady-state
2. The data tested by surface mounted on a 15mm × 15mm × 1mm FR4-epoxy P.C.B

FMMT591

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_C = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB} = -60V, I_E = 0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE} = -5V, I_C = -1mA$	100		300	
		$V_{CE} = -5V, I_C = -500mA$	100			
		$V_{CE} = -5V, I_C = -1A$	80			
		$V_{CE} = -5V, I_C = -2A$	15			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500mA, I_B = -50mA$ $I_C = -1A, I_B = -100mA$			-0.3 -0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -1A, I_B = -100mA$			-1.2	V
Base-emitter voltage	V_{BE}	$V_{CE} = -5V, I_C = -1A$			-1	V
Transition frequency	f_T	$V_{CE} = -10V, I_C = -50mA$ $f = 100MHz$	150			MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$			10	pF

RATING AND CHARACTERISTIC CURVES (FMMT591)

