

PNP Silicon Epitaxial Planar Transistor

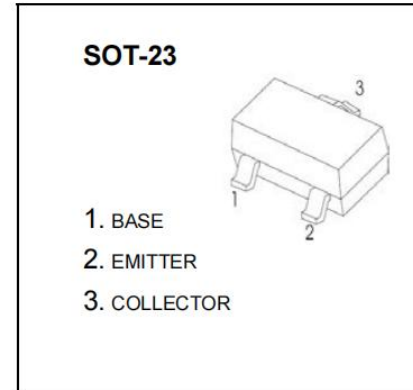
FEATURE

- Extremely low saturation voltage
- Complementary NPN type: FMMT618

APPLICATION

- Gate Driving MOSFETs and IGBTs
- DC-DC converters
- Charging circuit
- Power switches

MARKING: 718



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage	-20	V
V_{CE0}	Collector-Emitter Voltage	-20	V
V_{EB0}	Emitter-Base Voltage	-7	V
I_B	Base Current	-0.5	A
I_C	Collector Current -Continuous	-1.5	A
P_C	Total Collector Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	357	$^{\circ}\text{C}/\text{W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}$, $I_E=0$	-20			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}$, $I_B=0$	-20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}$, $I_C=0$	-7			V
Collector cut-off current	I_{CBO}	$V_{CB}=-15\text{V}$, $I_E=0$			-0.1	μA
Collector cut-off current	I_{CES}	$V_{CE}=-15\text{V}$, $V_{BE}=0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-4\text{V}$, $I_C=0$			-0.1	μA
DC current gain	$h_{FE(1)}^*$	$V_{CE}=-2\text{V}$, $I_C=-10\text{mA}$	300			
	$h_{FE(2)}^*$	$V_{CE}=-2\text{V}$, $I_C=-100\text{mA}$	300	600		
	$h_{FE(3)}^*$	$V_{CE}=-2\text{V}$, $I_C=-2\text{A}$	150			
	$h_{FE(4)}^*$	$V_{CE}=-2\text{V}$, $I_C=-4\text{A}$	35			
Collector-emitter saturation voltage	$V_{CE(sat) (1)}^*$	$I_C=-0.1\text{A}$, $I_B=-10\text{mA}$			-40	mV
	$V_{CE(sat) (2)}^*$	$I_C=-1\text{A}$, $I_B=-20\text{mA}$			-200	mV
	$V_{CE(sat) (3)}^*$	$I_C=-1.5\text{A}$, $I_B=-50\text{mA}$			-220	mV
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=-1.5\text{A}$, $I_B=-50\text{mA}$			-1	V
Base-emitter voltage	$V_{BE(on)}^*$	$V_{CE}=-2\text{V}$, $I_C=-2\text{A}$			-1	V
Transition frequency	f_T	$V_{CE}=-10\text{V}$, $I_C=-50\text{mA}$, $f=100\text{MHz}$	150			MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10\text{V}$, $f=1\text{MHz}$			30	pF
Turn-on Time	$t_{(on)}$	$V_{CC}=-10\text{V}$, $I_C=-1\text{A}$, $I_{B1}=I_{B2}=-20\text{mA}$		40		ns
Turn-off Time	$t_{(off)}$			670		ns

*Measured under pulse conditions . Pulse width =300 μs . Duty cycles $\leq 2\%$.

Typical Characteristics

