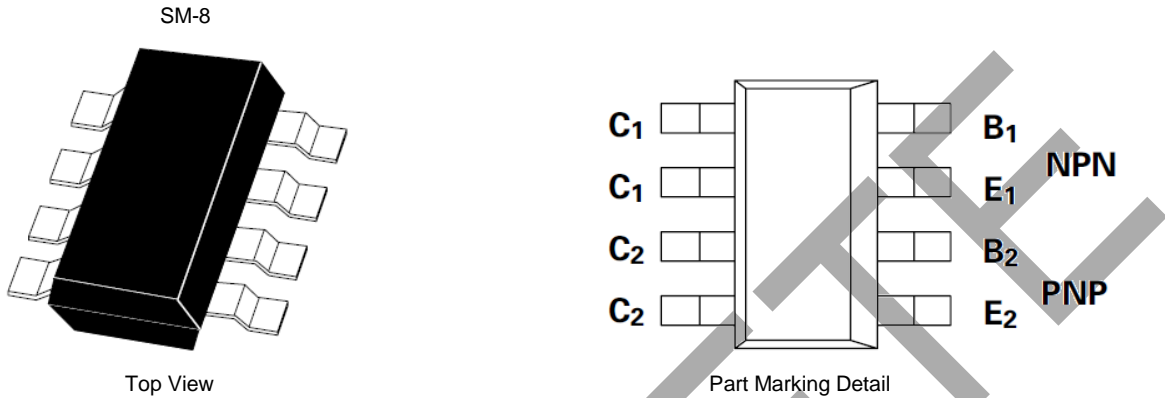


Features

- For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](https://www.diodes.com/quality/product-definitions/) or your local Diodes representative. <https://www.diodes.com/quality/product-definitions/>



Absolute Maximum Ratings

PARAMETER	SYMBOL	NPN	PNP	UNIT
Collector-Base Voltage	V_{CB0}	20	-20	V
Collector-Emitter Voltage	V_{CEO}	20	-20	V
Emitter-Base Voltage	V_{EBO}	5	-5	V
Peak Pulse Current	I_{CM}	6	-6	A
Continuous Collector Current	I_C	2	-1.5	A
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150		°C

Thermal Characteristics

PARAMETER	SYMBOL	VALUE	UNIT
Total Power Dissipation at $T_{amb} = 25^{\circ}C^*$ Any single die "on" Both die "on" equally	P_{tot}	2 2.5	W W
Derate above $25^{\circ}C^*$ Any single die "on" Both die "on" equally		16 20	mW/°C mW/°C
Thermal Resistance - Junction to Ambient* Any single die "on" Both die "on" equally		62.5 50	°C/W °C/W

* The power which can be dissipated assuming the device is mounted in a typical manner on a PCB with copper equal to 2 inches square.

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NPN Transistor Electrical Characteristics (@T_{amb} = +25°C, unless otherwise specified.)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{(BR)CBO}	20	100		V	I _C =100μA
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	20	27		V	I _C =10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	5	8.3		V	I _E =100μA
Collector Cutoff Current	I _{CBO}			100	nA	V _{CE} =16V
Emitter Cutoff Current	I _{EBO}			100	nA	V _{EB} =4V
Collector Emitter Cutoff Current	I _{CES}			100	nA	V _{CES} =16V
Collector-Emitter Saturation Voltage	V _{CE(sat)}		7 70 130	15 150 200	mV mV mV	I _C =0.1A, I _B =10mA* I _C =1A, I _B =10mA* I _C =2.5A, I _B =50mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}		0.89	1.0	V	I _C =2.5A, I _B =50mA*
Base-Emitter Turn-On Voltage	V _{BE(on)}		0.79	1.0	V	I _C =2.5A, V _{CE} =2V*
Static Forward Current Transfer Ratio	h _{FE}	200 300 200 100	400 450 360 180			I _C =10mA, V _{CE} =2V* I _C =200mA, V _{CE} =2V* I _C =2A, V _{CE} =2V* I _C =6A, V _{CE} =2V*
Transition Frequency	f _T	100	140		MHz	I _C =50mA, V _{CE} =10V f=100MHz
Output Capacitance	C _{obo}		23	30	pF	V _{CE} =10V, f=1MHz
Turn-On Time	t _{on}		170			V _{CC} =10V, I _C =1A I _{B1} =-I _{B2} =10mA
Turn-Off Time	t _{off}		400			

*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%
For typical characteristics graphs see SuperSOT FMMT618 datasheet.

PNP Transistor Electrical Characteristics (@ $T_{amb} = +25^{\circ}C$, unless otherwise specified.)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-20	-65		V	$I_C = -100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-20	-55		V	$I_C = -10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-8.8		V	$I_E = 100\mu A$
Collector Cutoff Current	I_{CBO}			-100	nA	$V_{CB} = -15V$
Emitter Cutoff Current	I_{EBO}			-100	nA	$V_{EB} = -4V$
Collector Emitter Cutoff Current	I_{CES}			-100	nA	$V_{CES} = -15V$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$		-16 -130 -145	-40 -200 -220	mV	$I_C = -0.1A, I_B = -10mA^*$ $I_C = -1A, I_B = -20mA^*$ $I_C = -1.5A, I_B = -50mA^*$
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$		-0.87	-1.0	V	$I_C = -1.5A, I_B = -50mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$		-0.81	-1.0	V	$I_C = 2A, V_{CE} = -2V^*$
Static Forward Current Transfer Ratio	h_{FE}	300 300 150 50 15	475 450 230 70 30			$I_C = -10mA, V_{CE} = -2V^*$ $I_C = -100mA, V_{CE} = -2V^*$ $I_C = -2A, V_{CE} = -2V^*$ $I_C = -4A, V_{CE} = -2V^*$ $I_C = -6A, V_{CE} = -2V^*$
Transition Frequency	f_T	150	180		MHz	$I_C = -50mA, V_{CE} = -10V$ $f = 100MHz$
Output Capacitance	C_{obo}		21	30	pF	$V_{CB} = -10V, f = 1MHz$
Turn-On Time	t_{on}		40			$V_{CC} = -10V, I_C = -1A$ $I_{B1} = I_{B2} = 20mA$
Turn-Off Time	t_{off}		670			

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$
For typical characteristics graphs see SuperSOT FM718 datasheet.

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