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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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FM MT493A

SOT23 60V NPN SILICON PLANAR MEDIUM POWER PLANAR TRANSISTOR

NPN: $V_{CEO} = 60V$, $I_C = 1A$, $V_{CE(SAT)} = 0.5V @1A$

Description:

This 60V NPN transistor provides users with performance combining low saturation and high h_{FE} with a continuous current capability of 1A, ensuring improved circuit efficiencies.

Features

Low saturation voltage

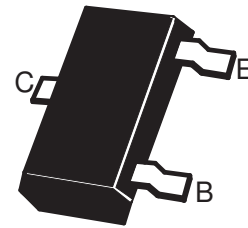
High h_{FE} min 300 @ 250mA

$I_C = 1A$

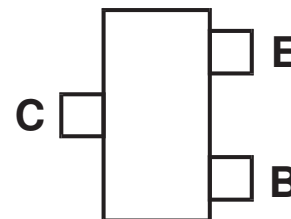
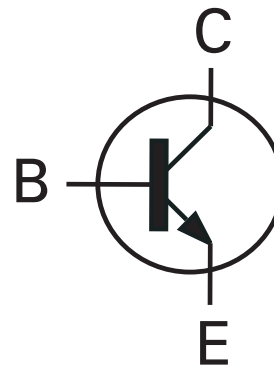
Applications

- Various driving functions including:-
 - Motors
 - Actuators
 - Solenoid & Relays
- Backlight Inverters.
- DC_DC Modules.

Device	Reel Size (inches)	Tape Width (mm)	Quantity Per Reel
FM MT493ATA	7	8mm embossed	3000 units
FM MT493ATC	13	8mm embossed	10000 units



SOT23



TOP VIEW

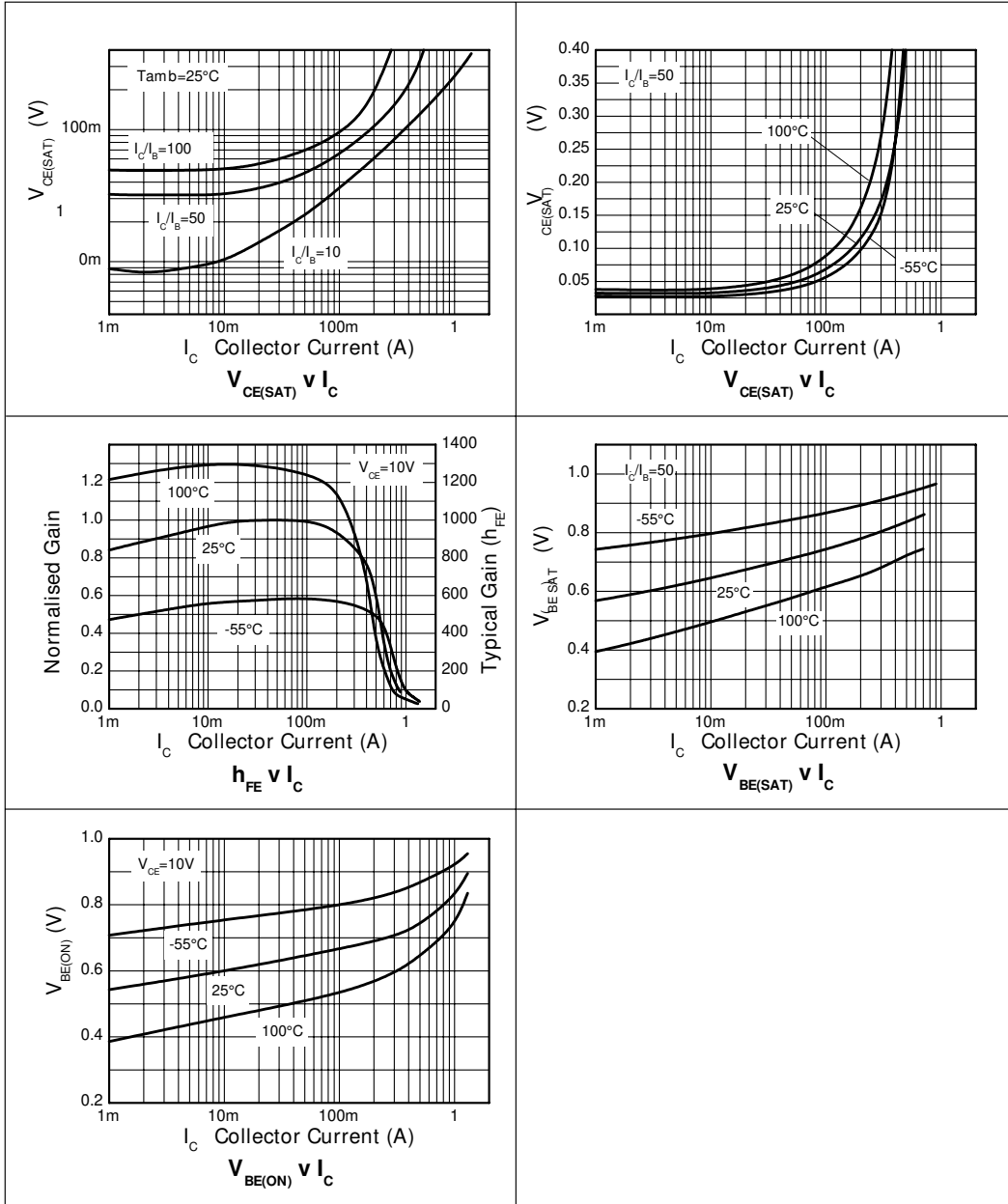
FM MT493A

ELECTRICAL CHARACTERISTICS (at Tamb = 25°C).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	120		V	$I_C = 100\mu A$
Collector - Emitter Breakdown Voltage	$V_{CEO(SUS)}$	60		V	$I_C = 10mA^*$
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	5		V	$I_E = 100\mu A$
Collector Cut-Off Current	I_{CBO}		100	nA	$V_{CB} = 45V$
Collector Cut-Off Current	I_{CES}		100	nA	$V_{CES} = 45V$
Emitter Cut-Off Current	I_{EBO}		100	nA	$V_{EB} = 4V$
Collector - Emitter Saturation Voltage	$V_{CE(SAT)}$		0.25 0.5	V V	$I_C = 500mA, I_B = 50mA$ $I_C = 1A, I_B = 100mA$
Base - Emitter Saturation Voltage	$V_{BE(SAT)}$		1.15	V	$I_C = 1A, I_B = 100mA$
Base Emitter Turn On Voltage	$V_{BE(ON)}$		1.0	V	$I_C = 1A, V_{CE} = 10V$
Static Forward Current Transfer Ratio	h_{FE}	300 500 300 100 20	1200		$I_C = 1mA, V_{CE} = 10V$ $I_C = 150mA, V_{CE} = 10V$ $I_C = 250mA, V_{CE} = 10V$ $I_C = 500mA, V_{CE} = 10V$ $I_C = 1A, V_{CE} = 10V$
Transition Frequency	f_T	150		Mhz	$I_C = 50mA, V_{CE} = 10V$ $f = 100MHz$
Output Capacitance	C_{OBO}		10	pF	$V_{CB} = 10V, f = 1MHz$

* Measured under pulsed conditions. Pulse width = 300 μ s. Duty Cycle <2%

ELECTRICAL CHARACTERISTICS



FM MT493A

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	120	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	1	A
Peak Pulse Current	I_{CM}	2	A
Base Current	I_B	200	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	500	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

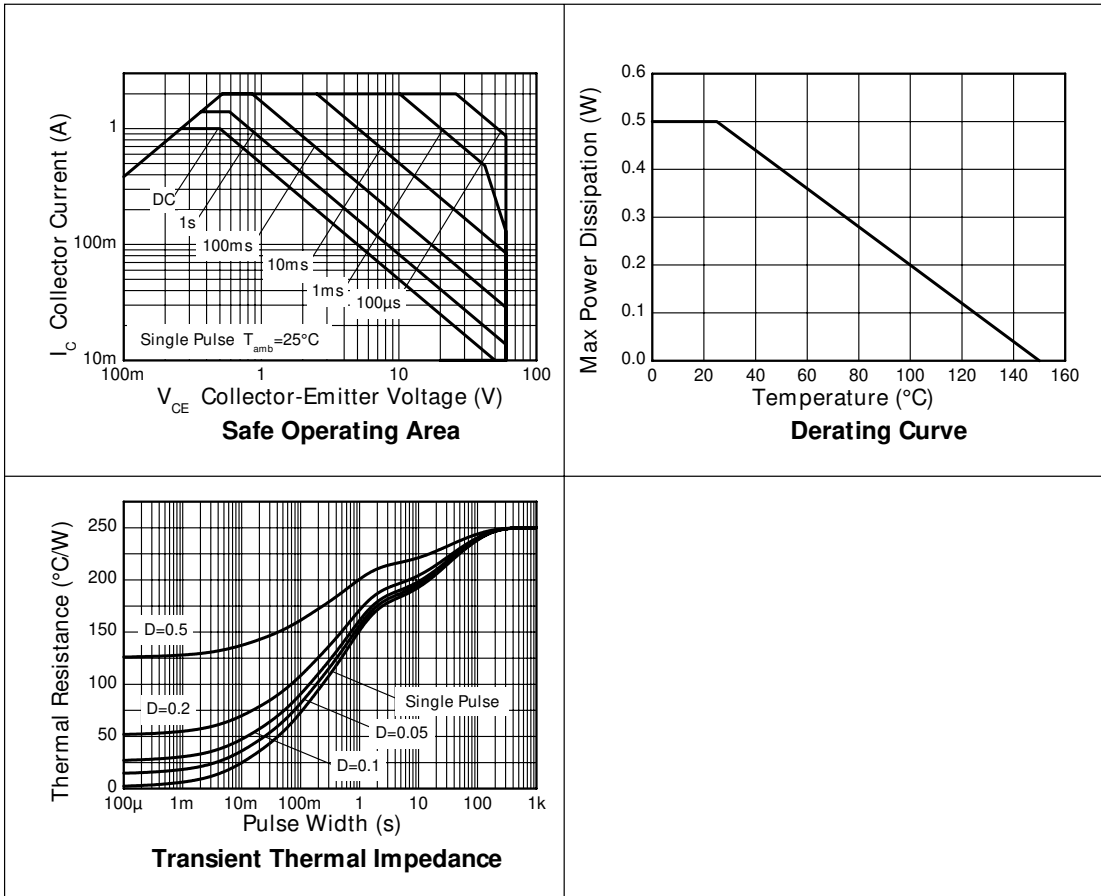
THERMAL RESISTANCE

PARAMETER	SYMBOL	VALUE	UNIT
Junction to Ambient (a)	$R_{\theta JA}$	250	$^{\circ}C/W$

Mounted on a 15mm x 15mm x 0.6mm alumina substrate connected using 25mm x 0.5 dia copper wire.

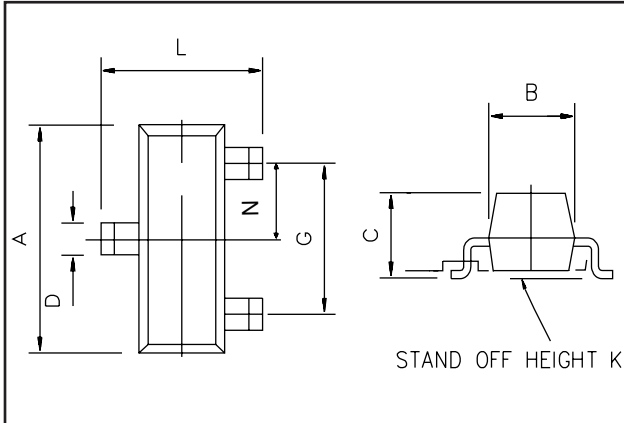
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THERMAL CHARACTERISTICS

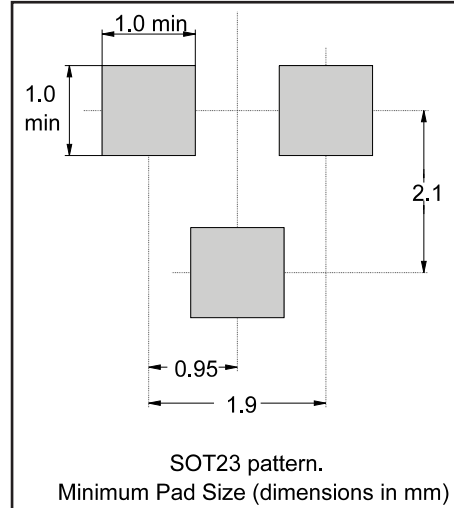


FM MT493A

PACKAGE DIMENSIONS



PAD LAYOUT DETAILS



DIM	Millimetres		Inches	
	Min	Max	Min	Max
A	2.67	3.05	0.105	0.120
B	1.20	1.40	0.047	0.055
C	—	1.10	—	0.043
D	0.37	0.53	0.0145	0.021
F	0.085	0.15	0.0033	0.0059
G	NOM 1.9		NOM 0.075	
K	0.01	0.10	0.0004	0.004
L	2.10	2.50	0.0825	0.0985
N	NOM 0.95		NOM 0.037	

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