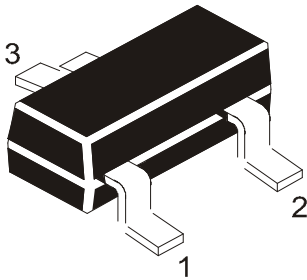


## NPN SILICON PLANAR EPITAXIAL TRANSISTOR

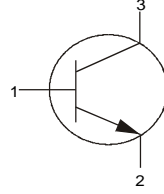
**CMMT493**

**SOT-23  
Formed SMD Package**



**PIN CONFIGURATION (NPN)**

- 1 = BASE
- 2 = EMITTER
- 3 = COLLECTOR



**Marking Code is =493**

**Medium Power Transistor**

### ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Base Voltage	$V_{CBO}$	120	V
Collector Emitter Voltage	$V_{CEO}$	100	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current Continuous	$I_C$	1	A
Collector Current Peak	$I_{CM}$	2	A
Base Current	$I_B$	200	mA
Power Dissipation @ $T_a=25^\circ\text{C}$	$P_D$	500	mW
Operating And Storage Junction Temperature Range	$T_j, T_{stg}$	- 55 to +150	$^\circ\text{C}$

### Electrical Characteristics ( $T_a=25^\circ\text{C}$ unless specified otherwise)

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Collector Base Voltage	$V_{CBO}$	$I_C=100\mu\text{A}, I_E=0$	120			V
Collector Emitter Voltage	$*V_{CEO(sus)}$	$I_C=10\text{mA}, I_B=0$	100			V
Emitter Base Voltage	$V_{EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector Cut Off Current	$I_{CBO}$	$V_{CB}=100\text{V}, I_E=0$			100	nA
Collector Cut Off Current	$I_{CES}$	$V_{CE}=100\text{V}, V_{BE}=0$			100	nA
Emitter Cut Off Current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			100	nA
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.30	V
		$I_C=1\text{A}, I_B=100\text{mA}$			0.60	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1\text{A}, I_B=100\text{mA}$			1.15	V
Base Emitter On Voltage	$V_{BE(on)}$	$V_{CE}=10\text{V}, I_C=1\text{A}$			1.00	V
DC Current Gain	$*h_{FE}$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	100		300	
		$V_{CE}=10\text{V}, I_C=250\text{mA}$	100			
		$V_{CE}=10\text{V}, I_C=500\text{mA}$	60			
		$V_{CE}=10\text{V}, I_C=1\text{A}$	20			
Transition Frequency	$f_T$	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	150			MHz
Output Capacitance	$C_{obo}$	$V_{CB}=10\text{V}, f=1\text{MHz}$			10	pF

**\*Pulse Test: Pulse Width =300  $\mu\text{s}$ , Duty Cycle  $\leq 2\%$**



## Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
SOT-23 T&R	3K/reel	136 gm/3K pcs	3" x 7.5" x 7.5"	12.0K	17" x 15" x 13.5"	192.0K	12 kgs
			9" x 9" x 9"	51.0K	19" x 19" x 19"	408.0K	28 kgs
	10K/reel	415 gm/10K pcs	13" x 13" x 0.5"	10.0K	17" x 15" x 13.5"	300.0K	16 kgs

## Customer Notes

### Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

## Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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