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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.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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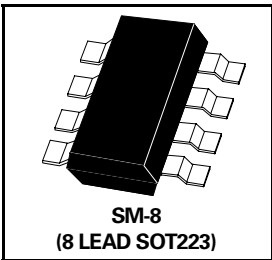
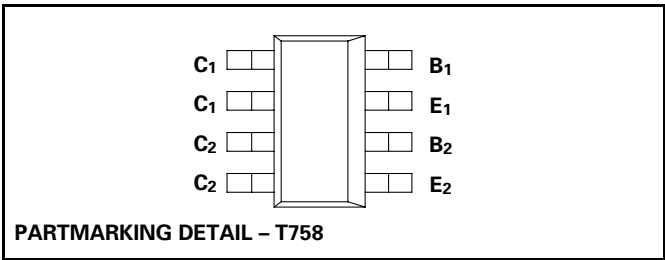
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# SM-8 DUAL PNP MEDIUM POWER TRANSISTORS

ISSUE 1 - NOVEMBER 1995

**ZDT758**



## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-400	V
Collector-Emitter Voltage	$V_{CEO}$	-400	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current	$I_{CM}$	-1	A
Continuous Collector Current	$I_C$	-0.5	A
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	°C

## THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNIT
Total Power Dissipation at $T_{amb} = 25^\circ\text{C}^*$ Any single die "on" Both die "on" equally	$P_{tot}$	2.25 2.75	W W
Derate above $25^\circ\text{C}^*$ Any single die "on" Both die "on" equally		18 22	mW/°C mW/°C
Thermal Resistance - Junction to Ambient* Any single die "on" Both die "on" equally		55.6 45.5	°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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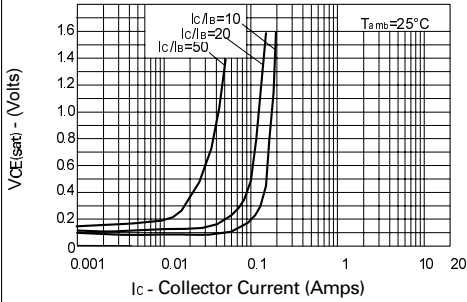
## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-400			V	$I_C = -100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{CEO(SUS)}$	-400			V	$I_C = -10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E = -100\mu\text{A}$
Collector Cutoff Current	$I_{CBO}$			-100	nA	$V_{CB} = -320\text{V}$
Collector Cutoff Current	$I_{CES}$			-100	nA	$V_{CE} = -320\text{V}$
Emitter Cutoff Current	$I_{EBO}$			-100	nA	$V_{EB} = -4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.30 -0.25 -0.50	V V V	$I_C = -20\text{mA}, I_B = -1\text{mA}$ $I_C = -50\text{mA}, I_B = -5\text{mA}^*$ $I_C = -100\text{mA}, I_B = -10\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-0.9	V	$I_C = -100\text{mA}, I_B = -10\text{mA}^*$
Base-Emitter Turn On Voltage	$V_{BE(on)}$			-0.9	V	$I_C = -100\text{mA}, V_{CE} = -5\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	50 50 40				$I_C = -1\text{mA}, V_{CE} = -5\text{V}$ $I_C = -100\text{mA}, V_{CE} = -5\text{V}^*$ $I_C = -200\text{mA}, V_{CE} = -10\text{V}^*$
Transition Frequency	$f_T$	50			MHz	$I_C = -20\text{mA}, V_{CE} = -20\text{V}$ $f = 20\text{MHz}$
Output Capacitance	$C_{obo}$			20	pF	$V_{CB} = -20\text{V}, f = 1\text{MHz}$
Switching times	$t_{on}$ $t_{off}$		140 2000		ns ns	$I_C = -100\text{mA}, V_{CE} = -100\text{V}$ $I_{B1} = 10\text{mA}, I_{B2} = -20\text{mA}$

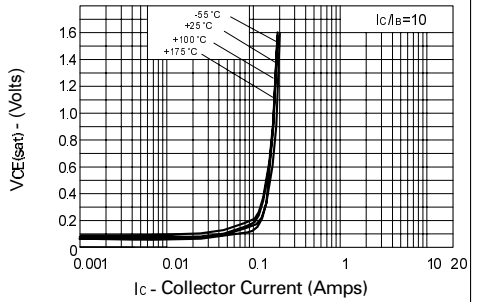
\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$

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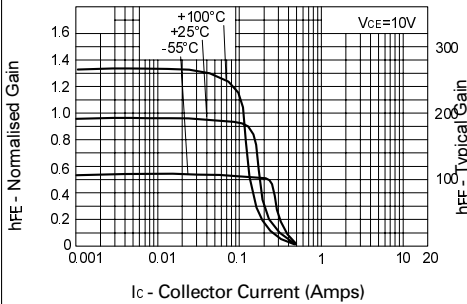
## TYPICAL CHARACTERISTICS



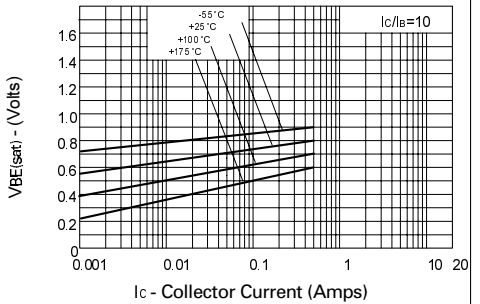
**$V_{CE(sat)}$  v  $I_C$**



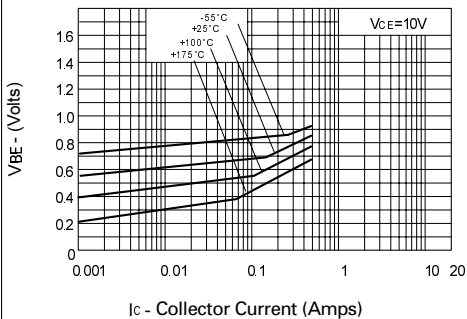
**$V_{CE(sat)}$  v  $I_C$**



**$h_{FE}$  v  $I_C$**



**$V_{BE(sat)}$  v  $I_C$**



**$V_{BE(on)}$  v  $I_C$**