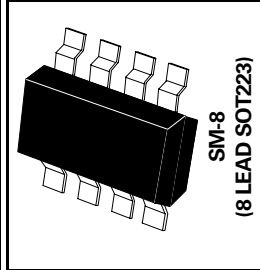
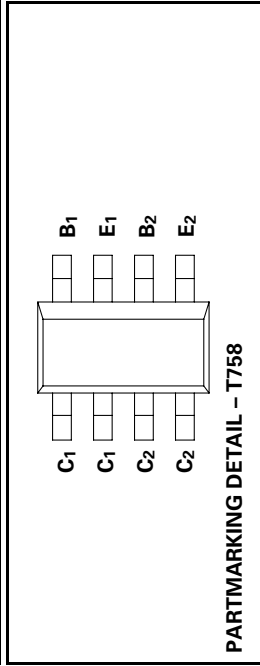


SM-8 DUAL PNP MEDIUM POWER TRANSISTORS

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°C* Any single die "on" Both die "on" equally	P _{tot}	2.25 2.75	W W
Derate above 25°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.

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

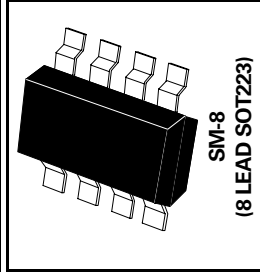
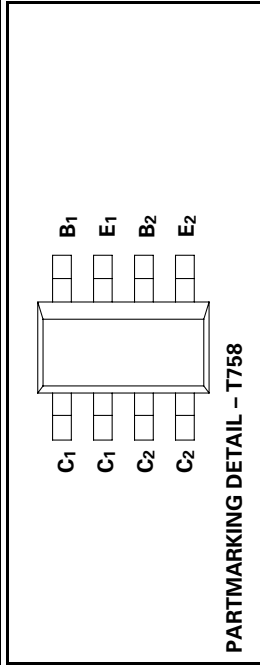
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-400			V	I _C = -100μA
Collector-Emitter Breakdown Voltage	V _{CEO(SUS)}	-400			V	I _C = -10mA*
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-5			V	I _E = -100μA
Collector Cutoff Current	I _{CBO}			-100	nA	V _{CB} = -320V
Collector Cutoff Current	I _{CES}			-100	nA	V _{CE} = -320V
Emitter Cutoff Current	I _{EBO}			-100	nA	V _{EB} = -4V
Collector-Emitter Saturation Voltage	V _{CE(sat)}			-0.30 -0.25 -0.50	V	I _C = -20mA, I _B = -1mA I _C = -50mA, I _B = -5mA* I _C = -100mA, I _B = -10mA*
Base-Emitter Saturation Voltage	V _{BE(sat)}			-0.9	V	I _C = -100mA, I _B = -10mA*
Base-Emitter Turn On Voltage	V _{BE(on)}			-0.9	V	I _C = -100mA, V _{CE} = -5V*
Static Forward Current Transfer Ratio	h _{FE}	50 50 40				I _C = -1mA, V _{CE} = -5V I _C = -100mA, V _{CE} = -5V* I _C = -200mA, V _{CE} = -10V*
Transition Frequency	f _T	50			MHz	I _C = -20mA, V _{CE} = -20V f = 20MHz
Output Capacitance	C _{obo}			20	pF	V _{CB} = -20V, f = 1MHz
Switching times	t _{on} t _{off}		140 2000		ns ns	I _C = -100mA, V _{CE} = -100V I _{B1} = 10mA, I _{B2} = -20mA

* Measured under pulsed conditions. Pulse width = 300μs. Duty cycle ≤ 2%

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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°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.

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	$I_C = -20\text{mA}, I_B = -1\text{mA}$ $I_C = -50\text{mA}, I_B = -5\text{mA}^*$ $I_C = -100\text{mA}, I_B = -10\text{mA}^*$
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	$I_C = -100\text{mA}, V_{CE} = -100\text{V}$ $I_B = 10\text{mA}, I_B = -20\text{mA}$

* Measured under pulsed conditions. Pulse width=300µs. Duty cycle ≤ 2%

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TYPICAL CHARACTERISTICS

