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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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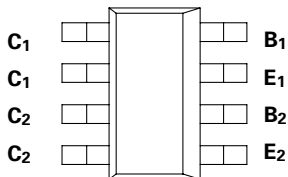
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



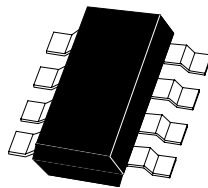
SM-8 DUAL NPN MEDIUM POWER DARLINGTON TRANSISTORS

ISSUE 1 - NOVEMBER 1995

ZDT605



PARTMARKING DETAIL - T605



**SM-8
(8 LEAD SOT223)**

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	140	V
Collector-Emitter Voltage	V_{CEO}	120	V
Emitter-Base Voltage	V_{EBO}	10	V
Peak Pulse Current	I_{CM}	4	A
Continuous Collector Current	I_C	1	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.

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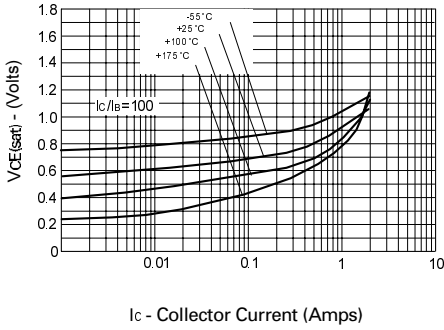
ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	140		V	$I_C=100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{CE0(SUS)}$	120		V	$I_C=10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	10		V	$I_E=100\mu\text{A}$
Collector Cutoff Current	I_{CBO}		0.01 10	μA μA	$V_{CB}=120\text{V}$ $V_{CB}=120\text{V}, T_{amb}=100^{\circ}\text{C}$
Collector Cutoff Current	I_{CES}		10	μA	$V_{CES}=120\text{V}$
Emitter Cutoff Current	I_{EBO}		0.1	μA	$V_{EB}=8\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		1.0 1.5	V V	$I_C=250\text{mA}, I_B=0.25\text{mA}^*$ $I_C=1\text{A}, I_B=1\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		1.8	V	$I_C=1\text{A}, I_B=1\text{mA}^*$
Base-Emitter TurnOn Voltage	$V_{BE(on)}$		1.7	V	$I_C=1\text{A}, V_{CE}=5\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	2K 5K 2K 0.5K	100K		$I_C=50\text{mA}, V_{CE}=5\text{V}^*$ $I_C=500\text{mA}, V_{CE}=5\text{V}^*$ $I_C=1\text{A}, V_{CE}=5\text{V}^*$ $I_C=2\text{A}, V_{CE}=5\text{V}^*$
Transition Frequency	f_T	150		MHz	$I_C=100\text{mA}, V_{CE}=10\text{V}$ $f=20\text{MHz}$
Input Capacitance	C_{ibo}	90 Typical		pF	$V_{EB}=0.5\text{V}, f=1\text{MHz}$
Output Capacitance	C_{obo}	15 Typical		pF	$V_{CE}=10\text{V}, f=1\text{MHz}$
Switching Times	t_{on}	0.5 Typical		μs	$I_C=0.5\text{A}, V_{CE}=10\text{V}$ $I_{B1}=I_{B2}=0.5\text{mA}$
	t_{off}	1.6 Typical		μs	

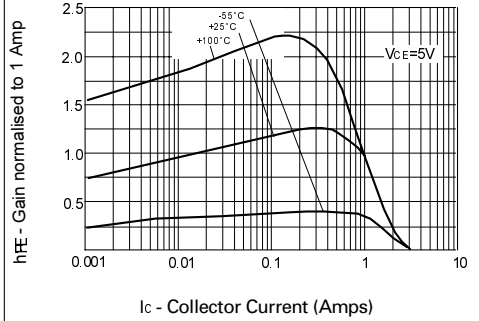
*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

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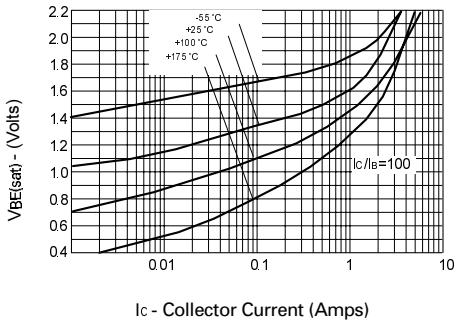
TYPICAL CHARACTERISTICS



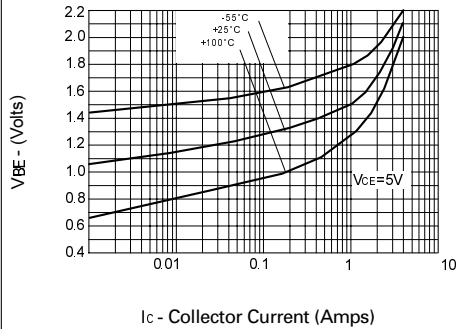
VCE(sat) v IC



hFE v IC



VBE(sat) v IC



VBE(on) v IC