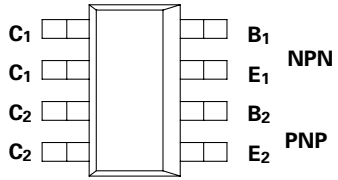
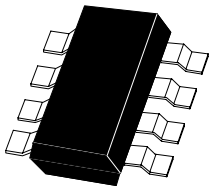
SM-8 COMPLEMENTARY MEDIUM POWER TRANSISTORS

ISSUE 1 - NOVEMBER 1995

ZDT6757



PARTMARKING DETAIL – T6757



SM-8
(8 LEAD SOT223)

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	NPN	PNP	UNIT
Collector-Base Voltage	V_{CBO}	300	-300	V
Collector-Emitter Voltage	V_{CEO}	300	-300	V
Emitter-Base Voltage	V_{EBO}	5	-5	V
Peak Pulse Current	I_{CM}	1	-1	A
Continuous Collector Current	I_C	0.5	-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.

NPN TRANSISTOR
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	300			V	I_C=100μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	300			V	I_C=10mA, I_B=0*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	I_E=100μA, I_C=0
Collector Cutoff Current	I_{CBO}			100	nA	V_{CB}=200V, I_E=0
Emitter Cutoff Current	I_{EBO}			100	nA	V_{EB}=3V, I_C=0
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	I_C=100mA, I_B=10mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			1	V	I_C=100mA, I_B=10mA*
Base-Emitter Turn-On Voltage	$V_{BE(on)}$			1	V	I_C=100mA, V_{CE}=5V*
Static Forward Current Transfer Ratio	h_{FE}	50 40				I_C=100mA, V_{CE}=5V I_C=10mA, V_{CE}=5V
Transition Frequency	f_T	30			MHz	I_C=10mA, V_{CE}=20V f=20MHz
Output Capacitance	C_{obo}			20	pF	V_{CB}=20V, f=1MHz

*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%
For typical characteristics graphs see FZT657 datasheet.

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-300			V	I_C=-100μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-300			V	I_C=-10mA, I_B=0*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	I_E=-100μA, I_C=0
Collector Cutoff Current	I_{CBO}			 -100	nA nA	V_{CB}=-160V, I_E=0 V_{CB}=-200V, I_E=0
Emitter Cutoff Current	I_{EBO}			-100	nA	V_{EB}=-3V, I_C=0
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.5	V	I_C=-100mA, I_B=-10mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-1.0	V	I_C=-100mA, I_B=-10mA*
Base-Emitter Turn-On Voltage	$V_{BE(on)}$			-1.0	V	I_C=-100mA, V_{CE}=-5V*
Static Forward Current Transfer Ratio	h_{FE}	50 40				I_C=-100mA, V_{CE}=-5V* I_C=-10mA, V_{CE}=-5V*
Transition Frequency	f_T	30			MHz	I_C=-10mA, V_{CE}=-20V f=20MHz
Output Capacitance	C_{obo}			20	pF	V_{CB}=-20V, f=1MHz

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

For typical characteristics graphs see FZT757 datasheet.