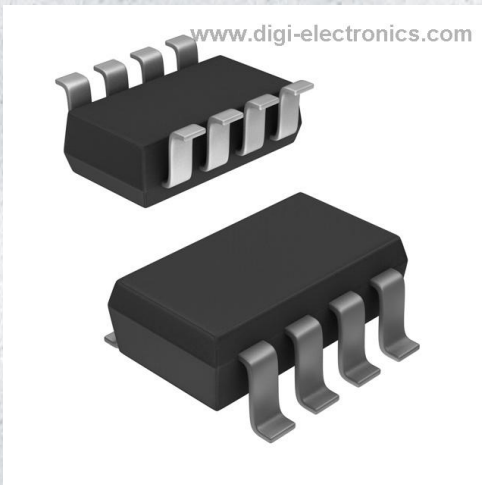


# ZDT749TA Datasheet



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	ZDT749TA-DG
Manufacturer	<a href="#">Diodes Incorporated</a>
Manufacturer Product Number	ZDT749TA
Description	TRANS 2PNP 25V 2A SM8
Detailed Description	Bipolar (BJT) Transistor Array 2 PNP (Dual) 25V 2A 1 60MHz 2.75W Surface Mount SM8



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## Purchase and inquiry

Manufacturer Product Number:

ZDT749TA

Series:

-

Transistor Type:

2 PNP (Dual)

Voltage - Collector Emitter Breakdown (Max):

25V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

2.75W

Operating Temperature:

-55°C ~ 150°C (TJ)

Package / Case:

SOT-223-8

Base Product Number:

ZDT749

Manufacturer:

Diodes Incorporated

Product Status:

Active

Current - Collector (Ic) (Max):

2A

Vce Saturation (Max) @ Ib, Ic:

500mV @ 200mA, 2A

DC Current Gain (hFE) (Min) @ Ic, Vce:

100 @ 1A, 2V

Frequency - Transition:

160MHz

Mounting Type:

Surface Mount

Supplier Device Package:

SM8

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0075

Moisture Sensitivity Level (MSL):

1 (Unlimited)

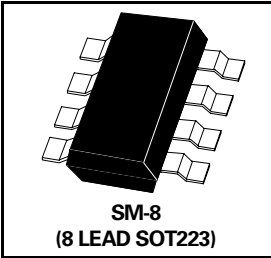
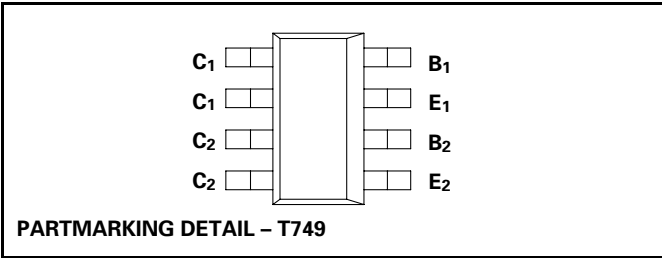
ECCN:

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# SM-8 DUAL PNP MEDIUM POWER TRANSISTORS

ISSUE 1 - NOVEMBER 1995

**ZDT749**



## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-35	V
Collector-Emitter Voltage	$V_{CEO}$	-25	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current	$I_{CM}$	-6	A
Continuous Collector Current	$I_C$	-2	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	W
		2.75	W
Derate above $25^\circ\text{C}^*$ Any single die "on" Both die "on" equally		18	mW/°C
		22	mW/°C
Thermal Resistance - Junction to Ambient* Any single die "on" Both die "on" equally		55.6	°C/W
		45.5	°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.

ZDT749TA Diodes Incorporated TRANS 2PNP 25V 2A SM8

# ZDT749

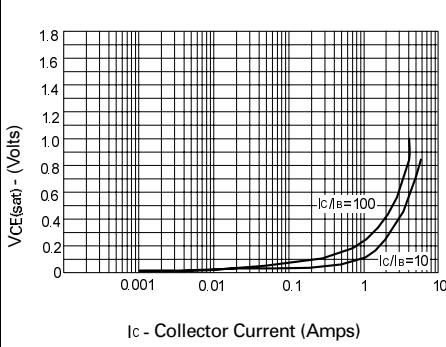
## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-35			V	$I_C = -100\mu\text{A}$ , $I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-25			V	$I_C = -10\text{mA}$ , $I_B = 0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E = -100\mu\text{A}$ , $I_C = 0$
Collector Cutoff Current	$I_{CBO}$			-0.1 -10	$\mu\text{A}$ $\mu\text{A}$	$V_{CB} = -30\text{V}$ $V_{CB} = -30\text{V}$ , $T_{amb} = 100^{\circ}\text{C}$
Emitter Cutoff Current	$I_{EBO}$			-0.1	$\mu\text{A}$	$V_{EB} = -4\text{V}$ , $I_E = 0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.12 -0.23	-0.3 -0.5	V V	$I_C = 1\text{A}$ , $I_B = -100\text{mA}^*$ $I_C = 2\text{A}$ , $I_B = -200\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.9	-1.25	V	$I_C = 1\text{A}$ , $I_B = -100\text{mA}^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.8	-1	V	$I_C = -1\text{A}$ , $V_{CE} = -2\text{V}^*$
Static Forward Current Transfer Ratio	$h_{FE}$	70 100 75 15	200 200 150 50	300		$I_C = -50\text{mA}$ , $V_{CE} = -2\text{V}^*$ $I_C = -1\text{A}$ , $V_{CE} = -2\text{V}^*$ $I_C = -2\text{A}$ , $V_{CE} = -2\text{V}^*$ $I_C = -6\text{A}$ , $V_{CE} = -2\text{V}^*$
Transition Frequency	$f_T$	100	160		MHz	$I_C = -100\text{mA}$ , $V_{CE} = -5\text{V}$ $f = 100\text{MHz}$
Output Capacitance	$C_{obo}$		55	100	pF	$V_{CB} = -10\text{V}$ $f = 1\text{MHz}$
Switching Times	$t_{on}$		40		ns	$I_C = -500\text{mA}$ , $V_{CC} = -10\text{V}$ $I_{B1} = I_{B2} = -50\text{mA}$
	$t_{off}$		450		ns	

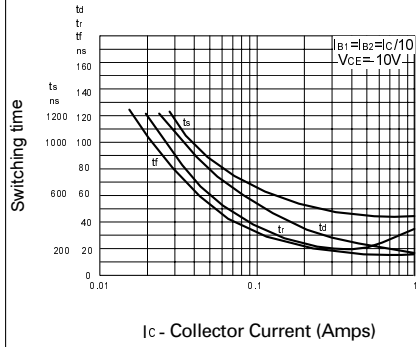
\*Measured under pulsed conditions. Pulse width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$

# ZDT749

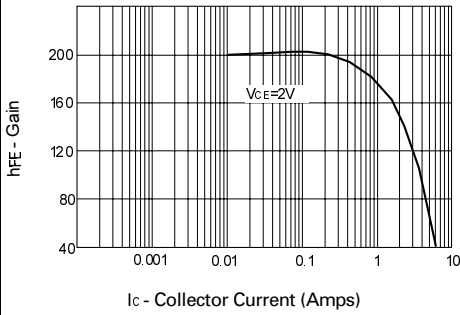
## TYPICAL CHARACTERISTICS



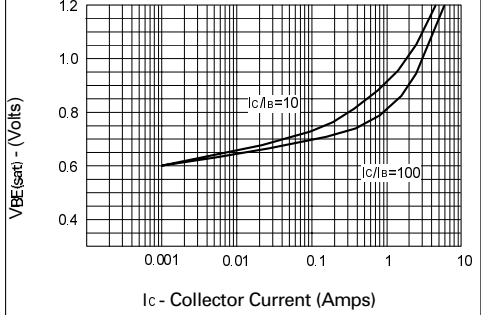
**VCE(sat) v IC**



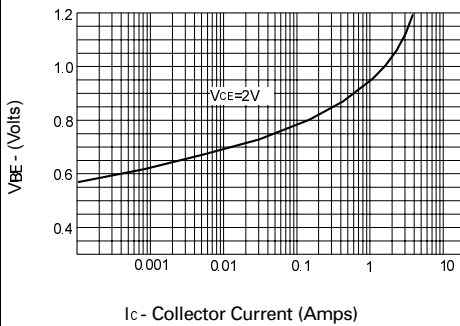
**Switching Speeds**



**hFE v IC**



**VBE(sat) v IC**



**VBE(on) v IC**

ZDT749TA Diodes Incorporated TRANS 2PNP 25V 2A SM8



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