

CDIL DATA SHEET

COMPLEMENTARY
SILICON POWER TRANSISTORS

BD242, A, B, C PNP
BD241, A, B, C NPN
TO-220

COMPLEMENTARY SILICON TRANSISTORS INTENDED FOR A WIDE VARIETY OF SWITCHING AND AMPLIFIER APPLICATIONS, SERIES AND SHUNT REGULATORS, DRIVER AND OUTPUT STAGES OF HI-FI AMPLIFIERS.

ABSOLUTE MAXIMUM RATINGS :

CHARACTERISTIC	SYMBOL	BD 241	A	B	C	UNIT
		BD 242	A	B	C	
Collector Base voltage (open emitter)	V _{CB0}	45	60	80	100	V
Collector Emitter voltage (open base)	V _{CE0}	45	60	80	100	V
Collector Emitter voltage (R _{BE} =100 ohms)	V _{CER}	55	70	90	150	V
Emitter Base voltage (open collector)	V _{EB0}	<-----5----->				V
Collector Current (Continuous)	I _C	<-----5----->				A
peak	I _{CM}	<-----8----->				A
Base Current (Continuous)	I _B	<-----1----->				A
Total Power Dissipation @ T _a = 25deg C	P _D	<-----2----->				W
@ T _c = 25deg C	P _D	<-----40----->				W
Storage temperature	T _{stg}	<-----65 to +150----->				deg C
Junction temperature	T _j	<-----150----->				deg C
THERMAL RESISTANCE						
From junction to ambient in free air	R _{th j-a}	<-----62.5----->				deg C/W
From junction to case	R _{th j-c}	<-----3.12----->				deg C/W

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ELECTRICAL CHARACTERISTICS (Tc=25 deg C unless otherwise specified)

DESCRIPTION	TEST CONDITION	SYMBOL		VALUE	UNIT
Collector Emitter (sus) Voltage	IC=30mA, IB=0	BVCEO	BD 241,242	>45	V
			A	>60	V
			B	>80	V
			C	>100	V
Collector cut-off current	VCE=30, IB=0	ICEO	BD 241,A,242,A	<0.3	mA
	VCE=60, IB=0		B,C	<0.3	mA
	VCE=VCEO(max) VBE=0	ICES	ALL	<0.2	mA
Emitter cut-off current	VBE=5, IC=0	IEBO	ALL	<1	mA
DC Current gain	IC=1A, VCE=4V	hFE	ALL	>25	
	IC=3A, VCE=4V	hFE	ALL	>10	
Collector emitter Saturation Voltage	IC=3A, IB=0.6A	VCE(sat)	ALL	<1.2	V
Base Emitter On Voltage	IC=3A, VCE=4V	VBE(on)	ALL	<1.8	V
DYNAMIC CHARACTERISTICS					
Small Signal Current Gain	IC=0.5A, VCE=10V, f=1KHz	hfe	ALL	>20	
Transition frequency	IC=0.5A, VCE=10V, f=1MHz	fT	ALL	>3	MHz
Turn off Breakdown Engery	L=20mH, ICC=1.22A	E[BR]	PNP	>15	mJ
	L=20mH, ICC=1.8A		NPN	>32	mJ
SWITCHING CHARACTERISTICS					
Turn on time		t on	ALL	typ 0.3	uS
Turn off time	VCC=20V, IC=1A, IB1=IB2=0.1A	t off	ALL	typ 1.0	uS

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