BD 241 · BD 241A · BD 241B

NPN SILICON EPITAXIAL BASE POWER TRANSISTORS

MICRO ELECTRONICS

THE BD 241, BD 241A AND BD 241B ARE NPN SILICON EPITAXIAL BASE POWER TRANSISTORS DESIGNED FOR SWITCHING, DRIVER AND OUTPUT STAGES IN AUDIO AMPLIFIERS. THE BD 241, BD 241A AND BD 241B ARE COMPLEMENTARY TO BD 242, BD 242A AND BD 242B RESPECTIVELY.

CASE TO-220B

BCE

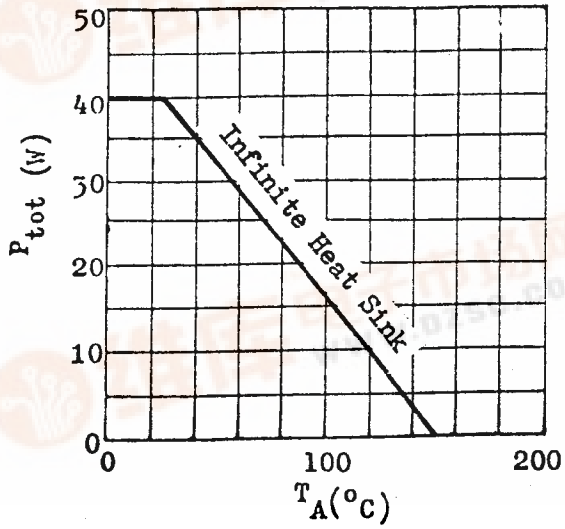
ABSOLUTE MAXIMUM RATINGS

		BD241	BD241A	BD241B
Collector-Emitter Voltage (R_{BE}=100Ω)	V_{CER}	55V	70V	90V
Collector-Emitter Voltage (I_B=0)	V_{CEO}	45V	60V	80V
Emitter-Base Voltage	V_{EBO}		5V	
Collector Current	I_C		3A	
Base Current	I_B		1A	
Total Power Dissipation @ $T_C \leq 25°C$	Ptot		40W	
@ $T_A \leq 25°C$			2W	
Junction and Storage Temperature	T_j, Tstg		-55 to +150°C	

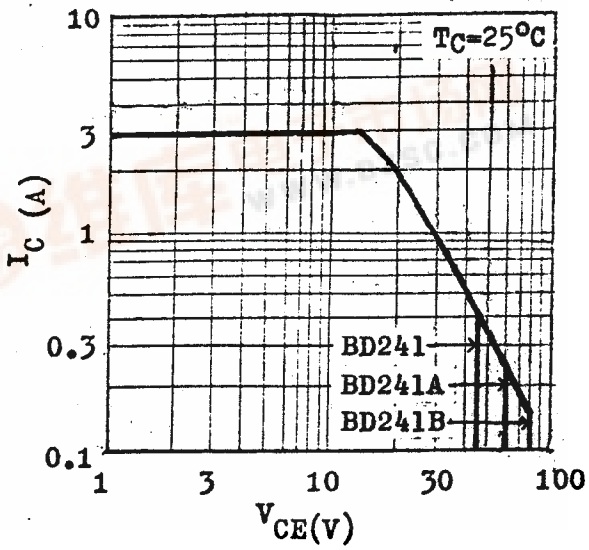
THERMAL RESISTANCE

Junction to Case	θ_{jc}	3.12°C/W	max.
Junction to Ambient	θ_{ja}	62.5°C/W	max.

P_{tot} vs T_A



SAFE OPERATING AREA (D.C.)



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ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	LV_{CEO} *				I_C=30mA I_B=0
BD241		45		V	
BD241A		60		V	
BD241B		80		V	
Collector Cutoff Current	I_{CEO}				
BD241, BD241A			0.3	mA	V_{CE}=30V I_B=0
BD241B			0.3	mA	V_{CE}=60V I_B=0
Collector Cutoff Current BD241	I_{CES}		0.2	mA	V_{CE}=45V V_{BE}=0
BD241A			0.2	mA	V_{CE}=60V V_{BE}=0
BD241B			0.2	mA	V_{CE}=80V V_{BE}=0
Emitter Cutoff Current	I_{EBO}		1	mA	V_{EB}=5V I_C=0
Base-Emitter Voltage	V_{BE} *		1.8	V	I_C=3A V_{CE}=4V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$*		1.2	V	I_C=3A I_B=0.6A
D.C. Current Gain	H_{FE} *	25			I_C=1A V_{CE}=4V
		10			I_C=3A V_{CE}=4V
Small Signal Current Gain	h_{fe}	20			I_C=0.5A V_{CE}=10V f=1kHz
Current Gain-Bandwidth Product	f_T	3		MHz	I_C=0.5A V_{CE}=10V

* Pulse Test : Pulse Width=0.3mS, Duty Cycle=1%