"BIG IDEAS IN BIG POWER"

PowerTech

90 AMPERES

PT-7511

SILICON NPN TRANSISTOR

MAXIMUM RATINGS	SYMBOL	PT-7511
Collector-Base Voltage	V_{CBO}	200V
Collector-Emitter Voltage	V_{CEO}	200V
Emitter-Base Voltage	V_{EBO}	10V
Peak Collector Current	I_{CM}*	90A
D.C. Collector Current	I_C	50A
Power Dissipation at 25°C Case Temperature	P_D	350W
Power Dissipation at 100°C Case Temperature	P_D	200W
Operating Junction Temperature Range	T_J	-65 to 200°C
Storage Temperature Range	T_A	-65 to 200°C
Thermal Resistance	θ_{JC}	0.5° C/W
Package		TO-63

ELECTRICAL CHARACTERISTICS (at 25°C unless noted)

TEST	SYMBOL	LIMITS PT-7511 MIN.	LIMITS PT-7511 MAX.	UNIT	TEST CONDITIONS
D.C. Current Gain*	h_{FE}	10	40		I_C=50A, V_{CE}=2V
D.C. Current Gain*	h_{FE}	5	–		I_C=90A, V_{CE}=4V
Collector Saturation Voltage*	$V_{CE(sat)}$	–	0.6	V	I_C=50A, I_B= 6A
Collector Saturation Voltage*	$V_{CE(sat)}$	–	1.5	V	I_C=90A, I_B= 20A
Base Emitter Voltage*	V_{BE}	–	1.5	V	I_C=50A, V_{CE}=2V
Base Emitter Voltage*	V_{BE}	–	2.5	V	I_C=90A, V_{CE}=4V
Collector-Emitter Breakdown Voltage*	$V_{CEO(sus)}$	200	–	V	I_C=200mA, I_B=0
Collector Cut-off Current	I_{CBO}	–	2.0	mA	V_{CB}=200V, I_{EB}=0
Collector Cut-off Current @ 150°C	I_{CBO}	–	10	mA	V_{CB}=100V, I_{EB}=0
Emitter Cut-off Current	I_{EBO}	–	1.0	mA	V_{EB}=8V, I_{CB}=0
Gain Bandwith Product Typ.	f_t	1.0	–	MHz	I_C=5A, V_{CE}=10V f=100KHz
Collector Capacitance	C_{obo}	–	1800	pf	V_{CB}=10V
Switching Speed Typ.	t_r	–	2.5	µs.	
(PowerTech Test Circuit)	t_s	–	3	µs.	I_C=50A
	t_f	–	2.5	µs.	I_{B1}=5A I_{B2}=10A

*PW ≤ 300µs., D.C. ≤ 2%

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