2SD999 TRANSISTOR (NPN)

FEATURES

Power dissipation

$P_{CM:}$ 0.5 W (Tamb=25℃)

Collector current

$I_{CM:}$ 1 A

Collector-base voltage

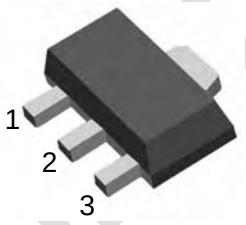
$V_{(BR)CBO}$: 30 V

Operating and storage junction temperature range

T_J, T_{stg}: -55℃ to +150℃

SOT-89

1. BASE
2. COLLECTOR
3. EMITTER



ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	Ic=100μA, I_E=0	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	Ic=1mA, I_B=0	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=30V, I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=1V, I_C=100mA	90		400	
	$h_{FE(2)}$	V_{CE}=1V, I_C=1A	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=1A, I_B=100mA			0.4	V
Base-emitter saturation voltage	$V_{BE\ (sat)}$	I_C=1A, I_B=100mA			1.2	V
Base-emitter voltage	V_{BE}	V_{CE}=6V, I_C=10mA	0.6		0.7	V
Transition frequency	f_T	V_{CE}=6V, I_C=10mA		130		MHz
Collector output capacitance	C_{ob}	V_{CB}=6V, I_E=0, f=1MHz		22		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	CM	CL	CK
Range	90-180	135-270	200-400
Marking			

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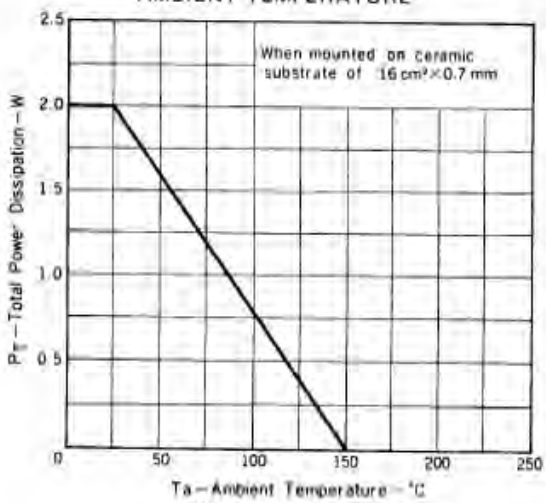
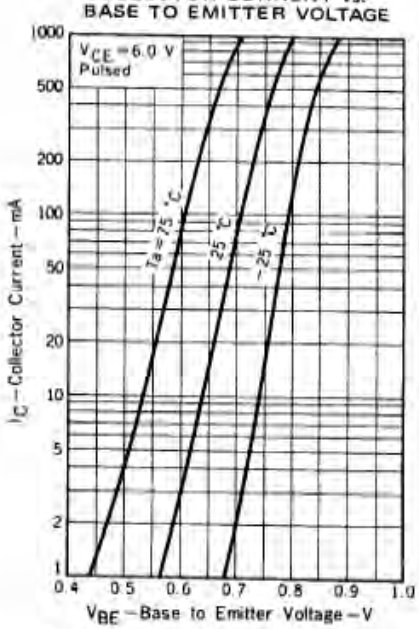
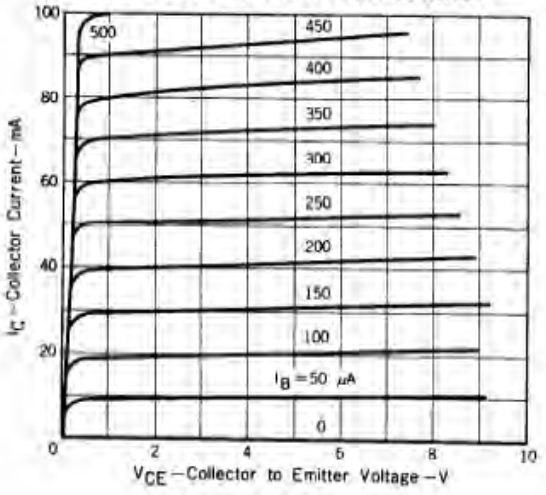
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



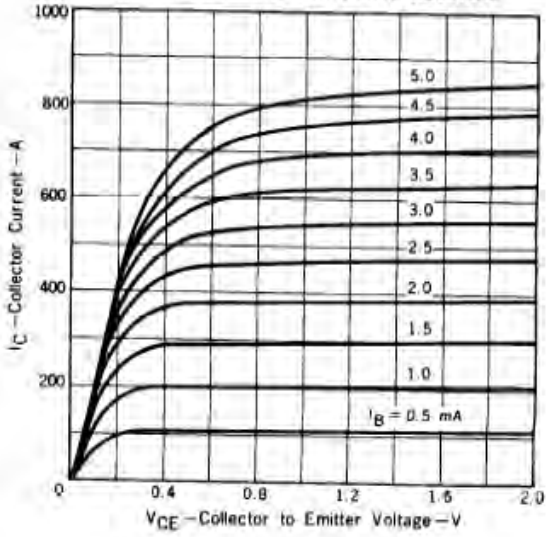
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



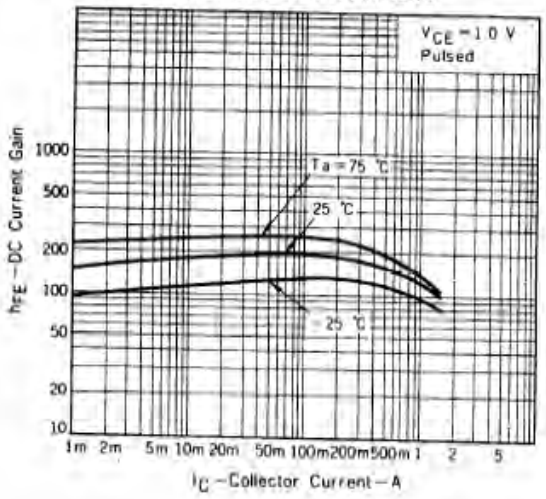
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



DC CURRENT GAIN vs. COLLECTOR CURRENT



BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT