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MJ2955
Silicon PNP Power Transistor
Audio Power Amp, Medium Speed Switch
TO–3 Type Package

Description:

The MJ2955 is a silicon PNP transistor in a TO–3 type case designed for general purpose switching and amplifier applications.

Features:

- DC Current Gain: h_{FE} = 20 – 70 @ I_C = 4A
- Collector–Emitter Saturation Voltage: $V_{CE(sat)}$ = 1.1V (Max) @ I_C = 4A
- Excellent Safe Operating Area

Absolute Maximum Ratings:

Collector–Emitter Voltage, V_{CEO} 60V
Collector–Emitter Voltage, V_{CER} 70V
Collector–Base Voltage, V_{CB} 100V
Emitter–Base Voltage, V_{EB} 7V
Continuous Collector Current, I_C 15A
Base Current, I_B 7A
Total Device Dissipation (T_C = +25°C), P_D 115W
Derate Above 25°C . . . . . 0.657W/°C
Operating Junction Temperature Range, T_J . . . . . –65° to +200°C
Storage Temperature Range, T_{stg} . . . . . –65° to +200°C
Thermal Resistance, Junction–to–Case, R_{thJC} . . . . . 1.52°C/W

Note 1. Maximum Ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

Electrical Characteristics: (T_C =+25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Collector–Emitter Sustaining Voltage	$V_{CEO(sus)}$	I_C = 200mA, I_B = 0, Note 2	60	–	–	V
Collector–Emitter Sustaining Voltage	$V_{CER(sus)}$	I_C = 200mA, R_{BE} = 100Ω, Note 2	70	–	–	V
Collector Cutoff Current	I_{CEO}	V_{CE} = 30V, I_B = 0	–	–	0.7	mA
	I_{CEX}	V_{CE} = 100V, $V_{BE(off)}$ = 1.5V	–	–	1.0	mA
		V_{CE} = 100V, $V_{BE(off)}$ = 1.5V, T_C = +150°C	–	–	5.0	mA
Emitter Cutoff Current	I_{EBO}	V_{BE} = 7V, I_C = 0	–	–	5.0	mA

Note 2. Pulse Test: Pulse Width ≤ 300μs. Duty Cycle ≤ 2%.

Electrical Characteristics (Cont'd): (T_C =+25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
ON Characteristics (Note 2)						
DC Current Gain	h_{FE}	I_C = 4A, V_{CE} = 4V	20	–	70	
		I_C = 10A, V_{CE} = 4V	5	–	–	
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 4A, I_B = 400mA	–	–	1.1	V
		I_C = 10A, I_B = 3.3A	–	–	3.0	V
Base–Emitter ON Voltage	$V_{BE(on)}$	I_C = 4A, V_{CE} = 4V	–	–	1.5	V
Second Breakdown						
Second Breakdown Collector Current with Base Forward Biased	$I_{s/b}$	V_{CE} = 40V, t = 1.0s; Nonrepetitive	2.87	–	–	A
Dynamic Characteristics						
Current Gain–Bandwidth Product	f_T	I_C = 500mA, V_{CE} = 10V, f = 1MHz	2.5	–	–	MHz
Small–Signal Current Gain	h_{fe}	I_C = 1A, V_{CE} = 4V, f = 1kHz	15	–	120	
Small–Signal Current Gain Cutoff Frequency	f_{hfe}	V_{CE} = 4V, I_C = 1A, f = 1kHz	10	–	–	kHz

Note 2. Pulse Test: Pulse Width ≤ 300μs. Duty Cycle ≤ 2%.