FUJITSU

SILICON HIGH SPEED POWER TRANSISTOR

2SC 2528

September 1979

SILICON NPN RING EMITTER TRANSISTOR (RET)

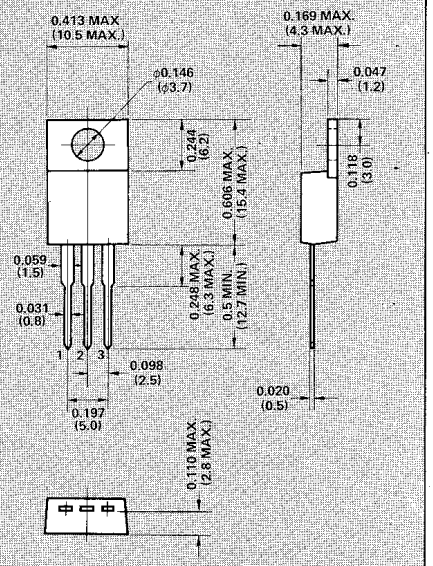
The 2SC2528 is a silicon NPN general purpose, medium power transistor fabricated with Fujitsu's unique Ring Emitter Transistor (RET) technology. RET devices are constructed with multiple emitters connected through diffused ballast resistors which provide uniform current density. This structure permits the design of medium power transistors with exceptional frequency response in high current applications.

The 2SC2528 is especially well-suited for High frequency power amplifiers, Audio power amplifiers and drivers.
A PNP complement, 2SA1078, is available.

- High f_T = 160 MHz (typ)
- Excellent Safe Operating Area
- Improved reverse Second-Breakdown Capability
- Excellent Current Gain Linearity

RING EMITTER TRANSISTOR
RET

OUTLINE DIMENSION
JEDEC TO-220



1: Base 2: Collector 3: Emitter
Dimension in inches and (millimeters)

ABSOLUTE MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector to Base Voltage	V_{CBO}	120	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector to Emitter Voltage	V_{CEO}	120	V
Collector Current	I_C	2	A
Collector Power Dissipation (T_C = 25°C)	P_C	25	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-65~+150	°C

ELECTRICAL CHARACTERISTICS (T_a = 25°C)

Parameter	Symbol	Test Conditions	Limits			Unit
			Min.	Typ.	Max.	
Collector Cutoff Current	I_{CBO}	V_{CB} = 120V, I_E = 0	–	–	1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5V, I_C = 0	–	–	1	μA
Collector Cutoff Current	I_{CEO}	V_{CE} = 120V, I_B = 0	–	–	100	μA
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 1μA, I_E = 0	120	–	–	V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 1μA, I_C = 0	5	–	–	V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, R_{BE} = ∞	120	–	–	V
DC Current Gain	h_{FE1}	V_{CE} = 5V, I_C = 0.3A*	60	–	350	
DC Current Gain	h_{FE2}	V_{CE} = 5V, I_C = 0.7A*	50	–	–	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 0.7A, I_B = 0.07A*	–	0.15	1.0	V
Base to Emitter Voltage	V_{BE}	V_{CE} = 5V, I_C = 0.7A*	–	0.8	1.7	V
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=0.5A, f=10MHz	–	160	–	MHz
Output Capacitance	C_{ob}	V_{CB}=20V, I_E=0, f=1MHz	–	60	–	pF

* Pulsed: Pulse Width ≦ 300μs
Duty Cycle ≦ 6%

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