

FUJITSU MICROELECTRONICS

3749762 FUJITSU MICROELECTRONICS

SILICON NPN EPITAXIAL

DARLINGTON TRANSISTOR 5 AMP, 100 VOLT

2SD560

37C 01864

T-33-09 D

DESCRIPTION

The 2SD560 is a low cost Darlington array which is perfectly suited for increasing TTL levels to drive print hammers, solenoids or motors.

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

Rating	Symbol	Condition	Value	Unit
Storage Temperature Range	T_{stg}		$-55 \sim +150$	$^\circ\text{C}$
Junction Temperature	T_J		+150	$^\circ\text{C}$
Collector-Base Voltage	V_{CBO}		150	V
Emitter-Base Voltage	V_{EBO}		7	V
Collector-Emitter Voltage	V_{CEO}		100	V
Collector Current-Continuous	I_C		5	A
Collector Current-Peak	I_{CP}	$P_W \leq 10 \text{ ms}$, $D.R. \leq 50 \%$	8	A
Base Current	I_B		0.5	A
Collector Power Dissipation	P_C	$T_A = 25^\circ\text{C}$	1.5	W
	P_C	$T_C = 25^\circ\text{C}$	30	W



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Limit			Unit
			Min.	Typ.	Max.	
Collector Cutoff Current	I_{CBO}	$V_{CB} = 100 \text{ V}, I_E = 0$	—	—	1	μA
DC Current Gain	h_{FE1}	$V_{CE} = 2 \text{ V}, I_C = 3 \text{ A}^*$	2000	4000	15000	—
	h_{FE2}	$V_{CE} = 2 \text{ V}, I_C = 5 \text{ A}^*$	500	—	—	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3 \text{ A}, I_B = 3 \text{ mA}^*$	—	1.2	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		—	1.6	2.0	V
Turn On Time	t_{on}	$I_C = 3 \text{ A}, I_{B1} = -I_{B2} = 3 \text{ mA}$ $R_L = 16.7 \Omega, V_{CC} = 50 \text{ V}$ Test Circuit	—	0.5	—	μs
Storage Time	t_{stg}		—	1.0	—	μs
Fall Time	t_f		—	1.0	—	μs

* Pulsed $P_W \leq 350 \mu\text{s}$,
Duty Ratio $\leq 2 \%$

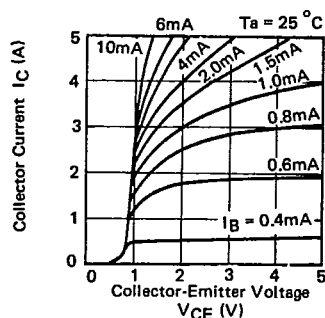
PACKAGE TYPE: TO-220. See page 5-23 for dimensions.

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2SD560

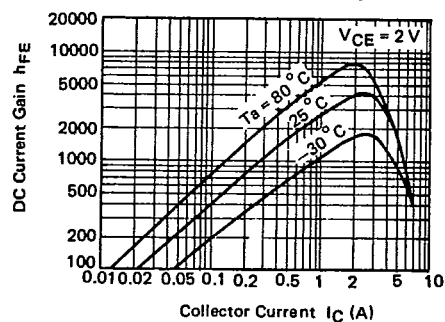
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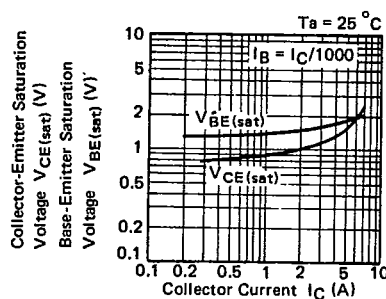
OUTPUT CHARACTERISTICS



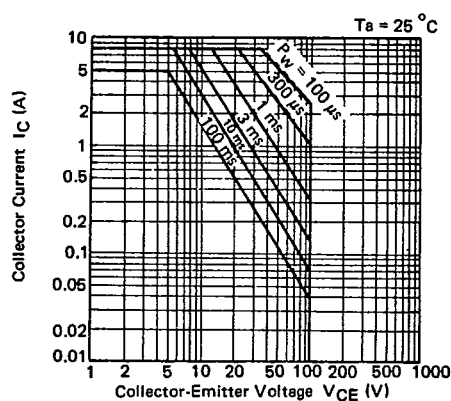
DC CURRENT GAIN



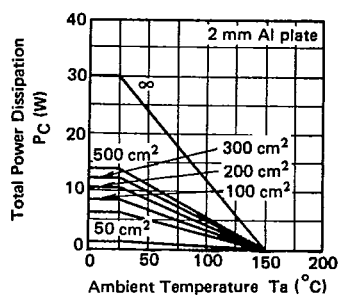
SATURATION VOLTAGE



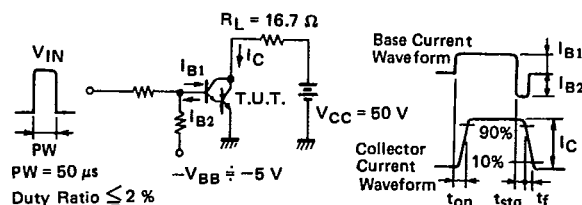
SAFE OPERATING AREA



TOTAL POWER DISSIPATION



SWITCHING TIME TEST CIRCUIT

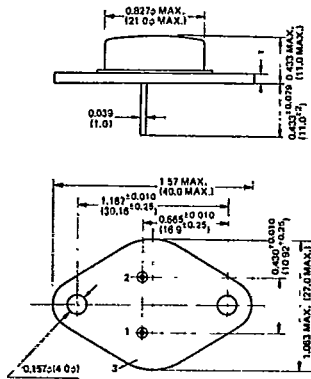


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T-90-20

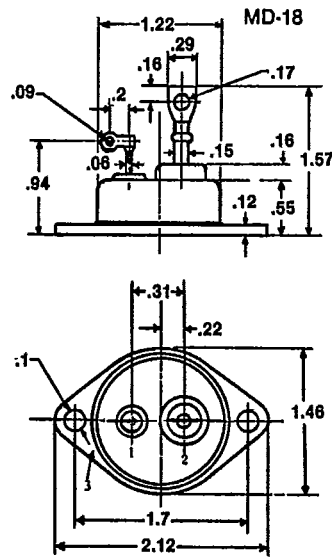
TRANSISTOR PACKAGING INFORMATION

JEDEC TO-3



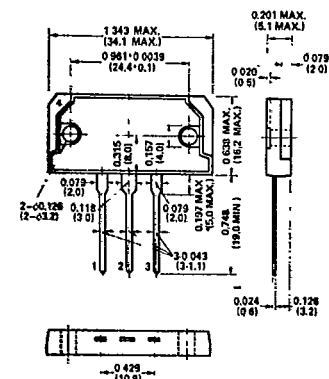
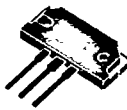
1: Base 2: Emitter 3: Collector (Case)
Dimension in inches and (millimeters)

MD-18



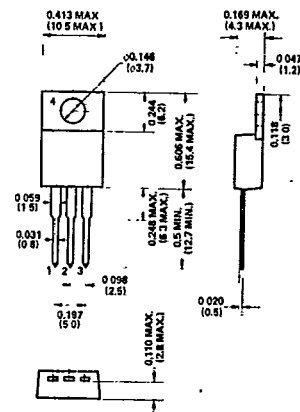
1: Base 2: Emitter 3: Collector

RM-60



1: Base 2: Collector 3: Emitter 4: Fin (Collector)
Dimension in inches and (millimeters)

JEDEC TO-220



1: Base 2: Collector 3: Emitter 4: Fin (Collector)
Dimension in inches and (millimeters)