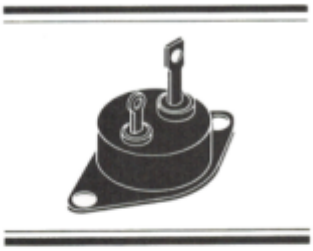
FUJITSU MICROELECTRONICS

2SD832

SILICON NPN DARLINGTON TRANSISTOR

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

Rating	Symbol	Condition	Value	Unit
Storage Temperature Range	T_{stg}		−55 ~ +150	°C
Junction Temperature	T_j		+150	°C
Collector-Base Voltage	V_{CBO}		600	V
Emitter-Base Voltage	V_{EBO}		7	V
Collector-Emitter Voltage	V_{CEO}		450	V
Collector Current-Continuous	I_C		50	A
Base Current	I_B		3	A
Collector Power Dissipation	P_C	Ta = 25 °C	400	W



ELECTRICAL CHARACTERISTICS (T_A = 25 °C)

Symbol	Test Condition		Limit			Unit
			Min	Typ	Max	
I_{CBO}	V_{CB} = 600V	I_E = 0	—	—	1.0	mA
I_{EBO}	V_{EB} = 6V	I_C = 0	—	—	200	mA
V_{CBO}	I_C = 1mA	I_E = 0	600	—	—	V
V_{EBO}	I_E = 200mA	I_C = 0	6	—	—	V
$V_{CEO(SUS)}$	I_C = 0.5A	R_{BE} = ∞	450	—	—	V
h_{FE}	V_{CE} = 5V	I_C = 30A/50A*	−/150	900/300	−/1200	—
$V_{CE(sat)}$	I_C = 50A	I_B = 1A*	—	1.4	2.0	V
$V_{BE(sat)}$			—	2.0	2.5	V
t_{on}	V_{CC} = 300V	I_C = 50A	—	1	—	μs
t_{stg}	$I_{B1} = -I_{B2}$ = 1A		—	8	—	μs
t_f			—	6	—	μs
f_T	V_{CE} = 10	I_E = 5	—	8	—	MHz
C_{ob}	V_{CB} = 50V	I_E = 0 f = 1MHz	—	500	—	pF

* Pulsed; P_W = 300μs, Du = 2%

PACKAGE TYPE: MD-18. See page 5-23 for dimensions.

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TABLE 1 SATURATION VOLTAGE $V_{CE(sat)}$, $V_{BE(sat)}$ — I_C

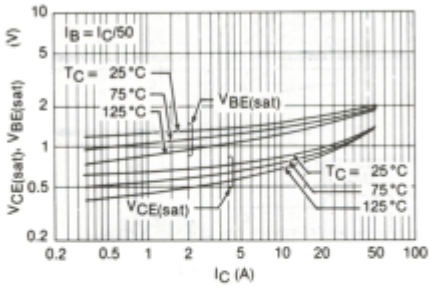
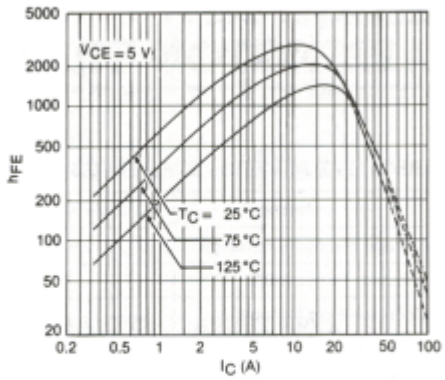


TABLE 2 DC CURRENT GAIN — I_C



TABLES 3 & 4 SWITCHING TIME t_{on}, t_{stg}, t_f — I_C

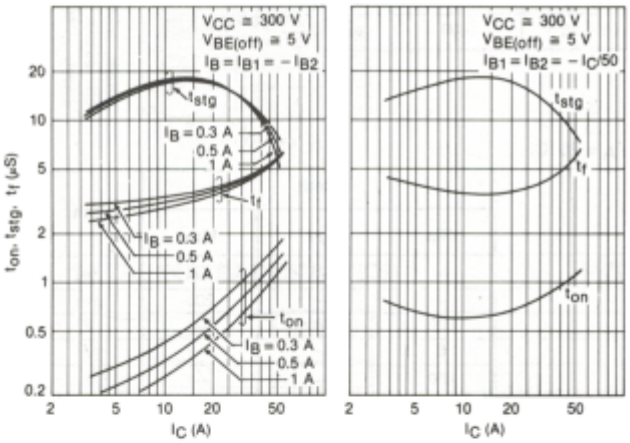


TABLE 6 FORWARD BIAS SAFE OPERATING AREA

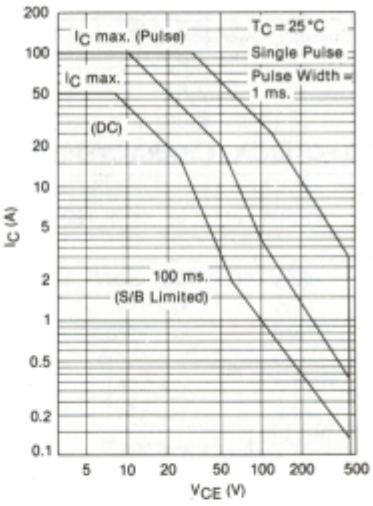
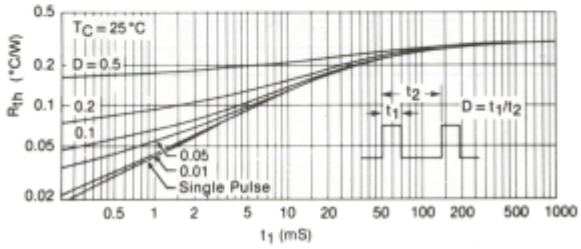
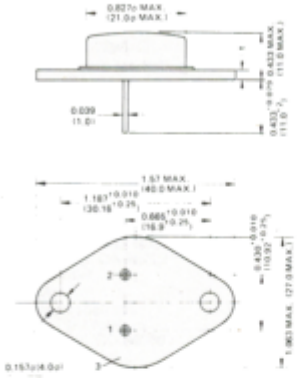


TABLE 5 THERMAL RESPONSE



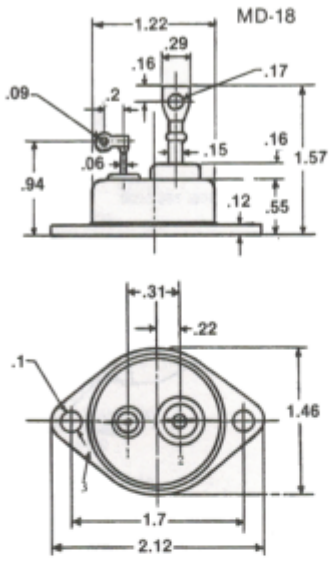
TRANSISTOR PACKAGING INFORMATION

JEDEC TO–3



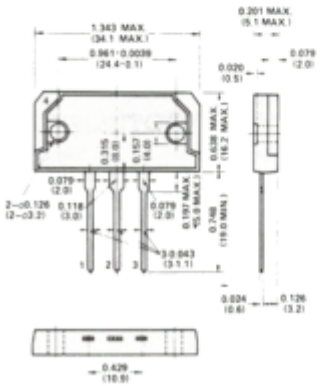
1: Base 2: Emitter 3: Collector (Case)
Dimension in inches and (millimeters)

MD-18



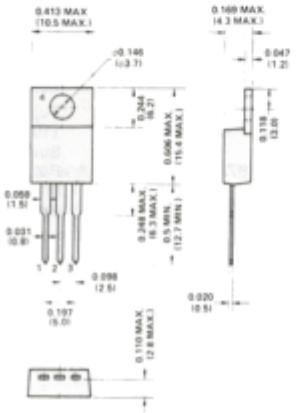
1: Base 2: Emitter 3: Collector

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)