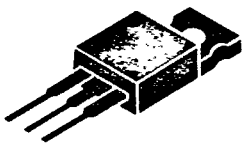
FUJITSU MICROELECTRONICS

2SC2427

SILICON HIGH SPEED TRIPLE DIFFUSED NPN POWER TRANSISTORS 7 AMP, 400 VOLT

T-33-11

ABSOLUTE MAXIMUM RATINGS



Ratings	Symbol	Condition	Value	Unit
			2SC2427	
Collector-Base Voltage	V_{CBO}		500	V
Emitter-Base Voltage	V_{EBO}		7	V
Collector-Emitter Voltage	V_{CEO}		400	V
Collector Current-Continuous	I_C		7	A
Collector Current-Peak	I_{CM}	Pulsed	15	A
Base Current	I_B		3	A
Collector Power Dissipation	P_C	T_C=25°C	40	W
Junction Temperature	T_j		150	°C
Storage Temperature Range	T_{stg}		−55~+150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Characteristics	Symbol	Test Conditions	LIMITS 2SC2427 MIN	TYP	MAX	Unit
Collector Cutoff Current	I_{CBO}	V_{CB}=450V, I_E=0	–	–	10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0	–	–	10	μA
Collector Cutoff Current	I_{CEO}	V_{CE}=320V, I_B=0	–	–	500	μA
Collector-Base Breakdown Voltage	V_{CBO}	I_C=100μA, I_E=0	500	–	–	V
Emitter-Base Breakdown Voltage	V_{EBO}	I_E=100μA, I_C=0	7	–	–	V
Collector-Emitter Breakdown Voltage	V_{CEO}	I_C=10mA, R_{BE}=∞	400	–	–	V
Collector-Emitter Breakdown Voltage	$V_{CEO(SUS)}$	I_C=100mA, R_{BE}=∞	400	–	–	V
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=2A *	10	20	40	–
Output Capacitance	C_{ob}	V_{CB}=20V, I_E=0, f=1MHz	–	90	–	PF
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=2A, I_B=0.4 *	–	0.2	0.7	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		–	0.9	1.2	V
Gain-Bandwidth Product	fT	V_{CE}=10V, I_E=0.5A	–	20	–	MHz
Rise Time	tr	I_C=2A, V_{CC}=150V I_{B1}=−I_{B2}=0.4A	–	0.3	1.0	μS
Storage Time	tstg		–	2.2	3.0	μS
Fall Time	tf		–	0.4	1.0	μS

* pulsed: pulse width ≤300μS, Duty cycle ≤2%

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

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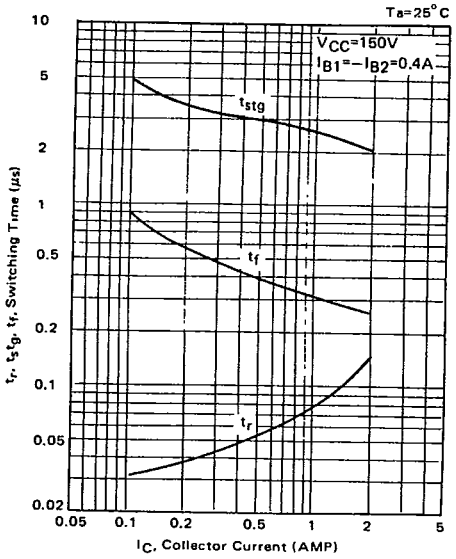
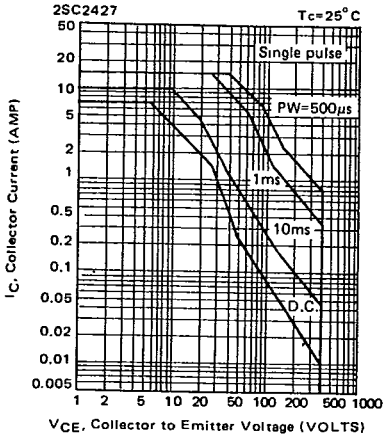
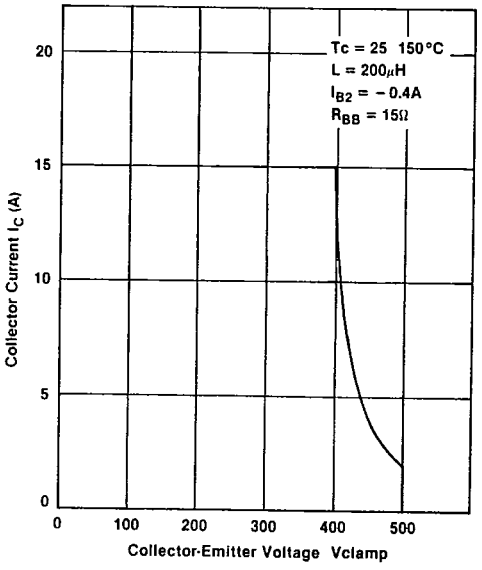
SWITCHING TIME (with constant base drive)



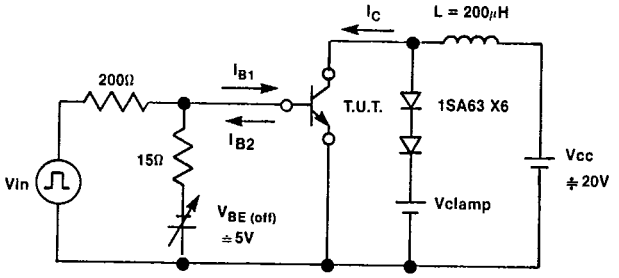
2SC2427
SAFE OPERATING AREAS



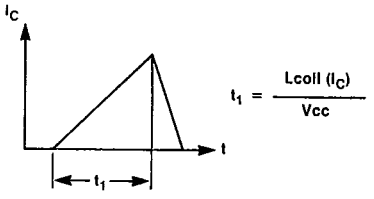
2SC2427 REVERSE BIAS
SAFE OPERATING AREA



TEST CIRCUIT FOR MEASUREMENT OF
REVERSE BIAS SAFE OPERATING AREA



t_1 ADJUSTED TO OBTAIN I_C



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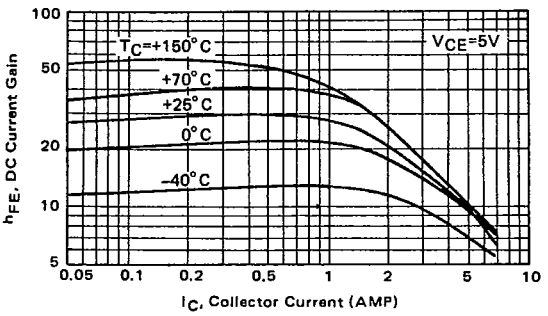
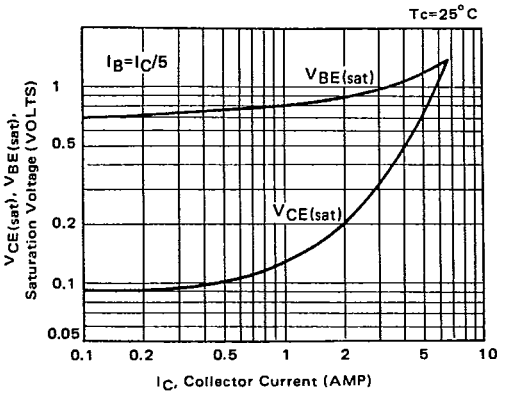
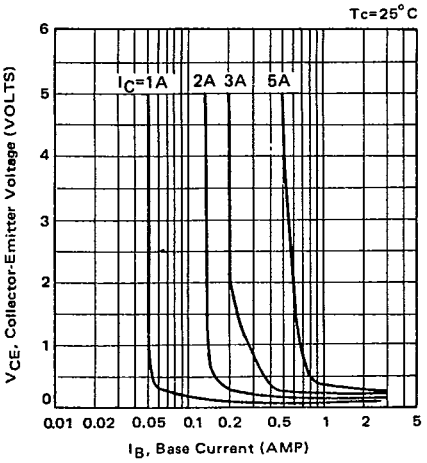
DC CURRENT GAIN



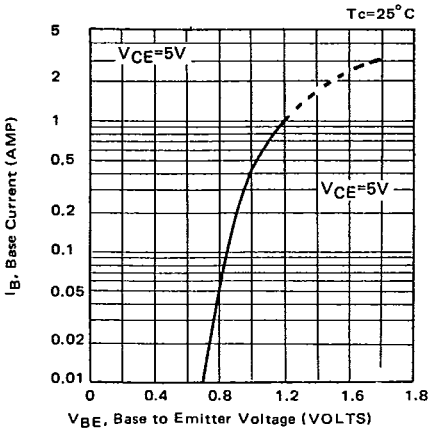
SATURATION VOLTAGE



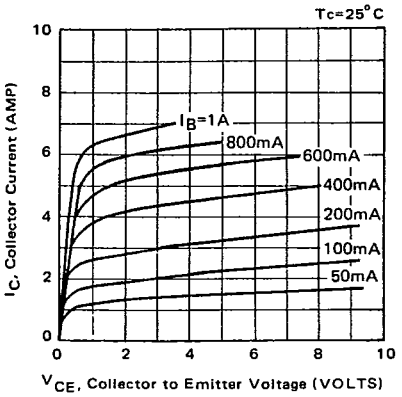
COLLECTOR TO EMITTER SATURATION VOLTAGE



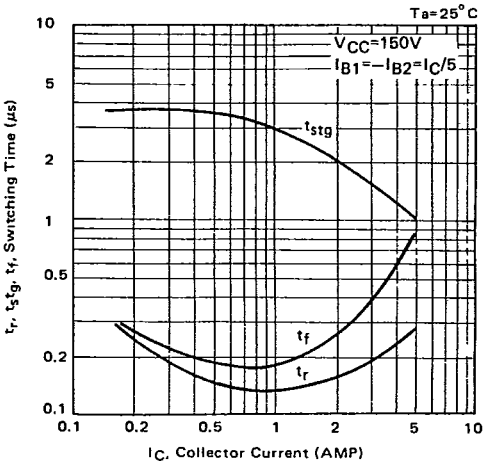
INPUT CHARACTERISTICS



OUTPUT CHARACTERISTICS

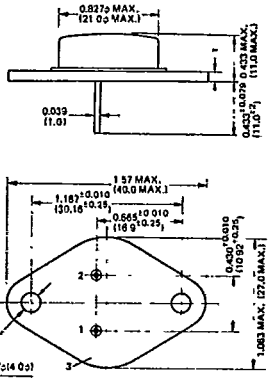


SWITCHING TIME



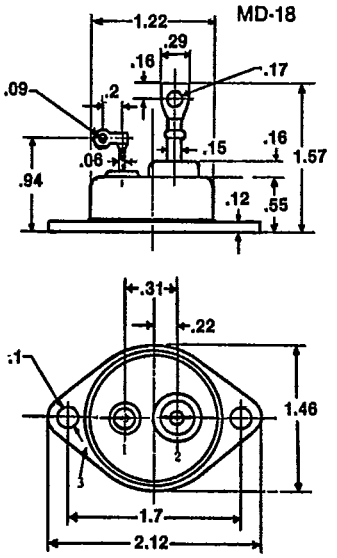
TRANSISTOR PACKAGING INFORMATION

JEDEC TO-3



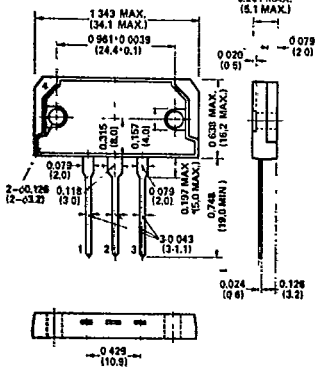
1: Base 2: Emitter 3: Collector (Case)
Dimension in inches and (millimeters)

MD-18



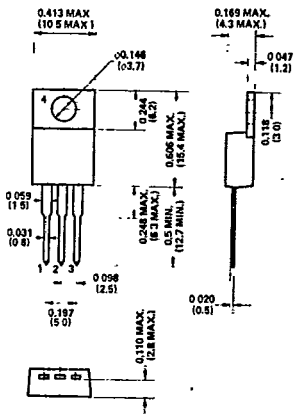
1: Base 2: Emitter 3: Collector

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)