ADVANCED POWER TECHNOLOGY RF®

140 COMMERCE DRIVE
MONTGOMERYVILLE, PA
18936-1013
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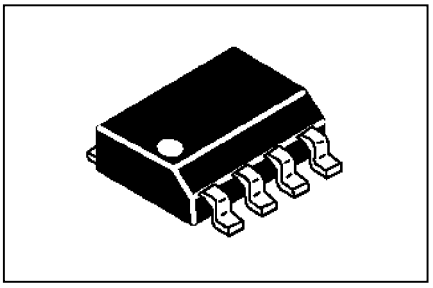
SRF4427
SRF4427G

* G Denotes RoHS Compliant, Pb Free Terminal Finish

RF AND MICROWAVE DISCRETE LOW POWER TRANSISTORS
GENERAL RF AMPLIFIER APPLICATIONS



Features

- **Low Cost SO-8 Plastic Surface Mount Package.**
- **S-Parameter Characterization**
- **Tape and Reel Packaging Options Available**
- **Maximum Available Gain – 20dB(typ) @ 200MHz**

DESCRIPTION:

Designed for general-purpose RF amplifier applications, such as pre-drivers and oscillators.

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
V_{CEO}	Collector-Emitter Voltage	18	Vdc
V_{CBO}	Collector-Base Voltage	36	Vdc
V_{EBO}	Emitter-Base Voltage	4.0	Vdc
I_C	Collector Current	400	mA

Thermal Data

P_D	Total Device Dissipation @ TC = 25ºC Derate above 25ºC	1.5 12.5	Watts mW/ºC
T_{STG}	Storage Temperature	-65 to + 150	ºC
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	125	ºC/W

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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC (off)

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
BV_{CEO}	Collector-Emitter Breakdown Voltage (IC = 10 mAdc, IB = 0)	18	-	-	Vdc
BV_{CES}	Collector-Base Breakdown Voltage (IC = 5 mAdc, IE = 0)	36	-	-	Vdc
BV_{EBO}	Emitter-Base Breakdown Voltage (IE = 5 mAdc, IC = 0)	4	-	-	Vdc
I_{CBO}	Collector Cutoff Current (VCB = 12.5 Vdc)	-	-	800	uA

STATIC (on)

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
HFE	DC Current Gain (VCE = 5 Vdc, IC = 150 mAdc)	20		200	

DYNAMIC

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
F_{TAU}	Current-Gain Bandwidth Product (IC = 50 mAdc, VCE = 12 Vdc, f = 200 MHz)		1.3		GHz
C_{OB}	Output Capacitance (VCB = 12 Vdc, IE = 0, f = 1.0 MHz)			3.4	GHz

FUNCTIONAL

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
G_{PE}	Power Gain VCE = 12 Vdc, f = 175 MHz, Pin = 15 mW	17	18	-	dB
$\|S_{21}\|^2$	Insertion Gain VCE = 12 Vdc , IC = 50 mAdc, f = 200 MHz	12	14	-	dB

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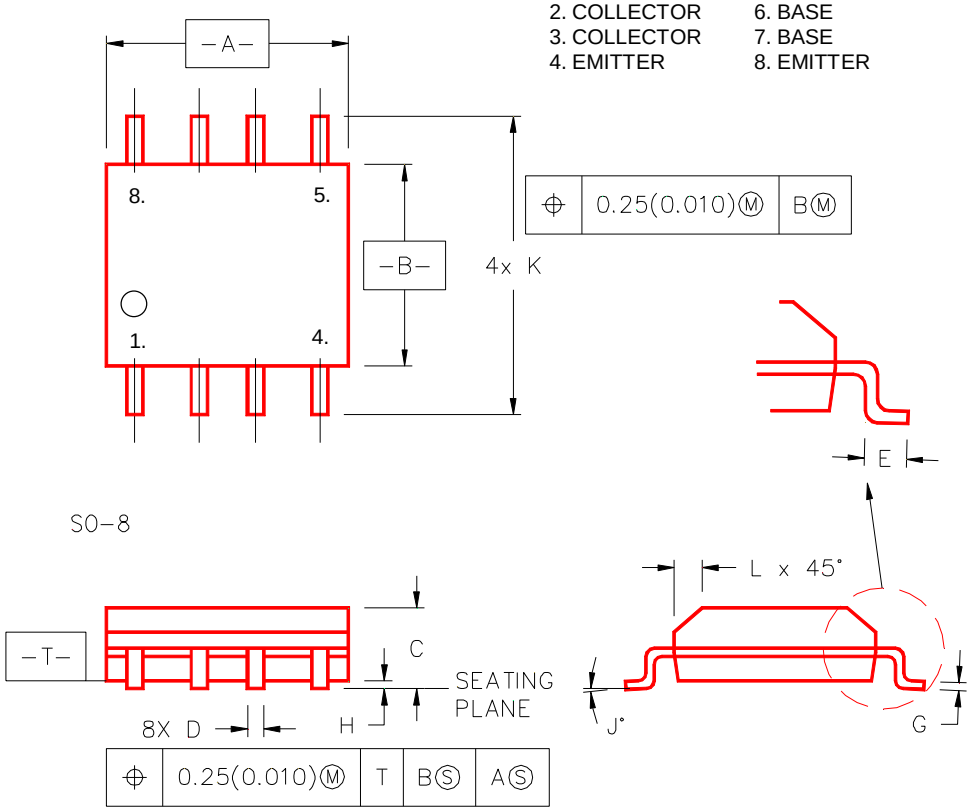
PACKAGE MECHANICAL DATA

PACKAGE STYLE M240

PIN 1. EMITTER
2. COLLECTOR
3. COLLECTOR
4. EMITTER
5. EMITTER
6. BASE
7. BASE
8. EMITTER



SO–8

	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.189/4,80	.196/4,98	J	0°/0°	7°/7°
B	.150/3,81	.157/3,99	K	.229/5,82	.244/6,20
C	.054/1,37	.068/1,73	L	.010/0,25	.019/0,48
D	.014/0,36	.019/0,48			
E	.016/0,41	.049/1,25			
F	.050/1,27 BSC				
G	.007/0,18	.009/0,23			
H	.004/0,10	.009/0,23			