

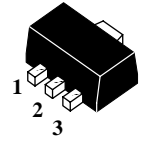
### NPN EPITAXIAL PLANAR TRANSISTOR

 Lead(Pb)-Free

#### Features:

- \* Low saturation voltage, typically  $V_{CE(sat)} = 0.35V$  at  $I_C/I_B = 1A/50mA$ .
- \* Excellent DC current gain characteristics.

1. BASE  
2. COLLECTOR  
3. EMITTER



**SOT-89**

#### Mechanical Data:

- \* Case : Molded Plastic

#### ABSOLUTE MAXIMUM RATINGS( $T_A = 25^\circ C$ Unless Otherwise Noted)

Rating	Symbol	Value	Unit
Collector to Base Voltage	$V_{CBO}$	60	V
Collector to Emitter Voltage	$V_{CEO}$	50	V
Collector to Base Voltage	$V_{EBO}$	6	V
Collector Current (DC)	$I_C$	2.0	A
Total Device Dissipation $T_A = 25^\circ C$	$P_D$	2	W
Junction Temperature	$T_j$	+150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ C$

## ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage $I_C=50\mu A, I_E=0$	$BV_{CBO}$	60	-	-	V
Collector-Emitter Breakdown Voltage $I_C=1mA, I_B=0$	$BV_{CEO}$	50	-	-	V
Emitter-Base Breakdown Voltage $I_E=50\mu A, I_C=0$	$BV_{EBO}$	6.0	-	-	V
Collector Cut-Off Current $V_{CB}=60V, I_E=0$	$I_{CBO}$	-	-	0.1	$\mu A$
Emitter-Cut-Off Current $V_{EB}=5V, I_C=0$	$I_{EBO}$	-	-	0.1	$\mu A$

## ON CHARACTERISTICS\*

DC Current Gain $V_{CE}=2V, I_C=500mA$	$h_{FE}$	82	-	270	-
Collector-Emitter Saturation Voltage $I_C=1A, I_B=50mA$	$V_{CE(sat)}$	-	-	0.35	V

\*Pulse Test: Pluse Width  $\leq 380\mu s$ , Duty Cycle  $\leq 2\%$ .

## DYNAMIC CHARACTERISTICS

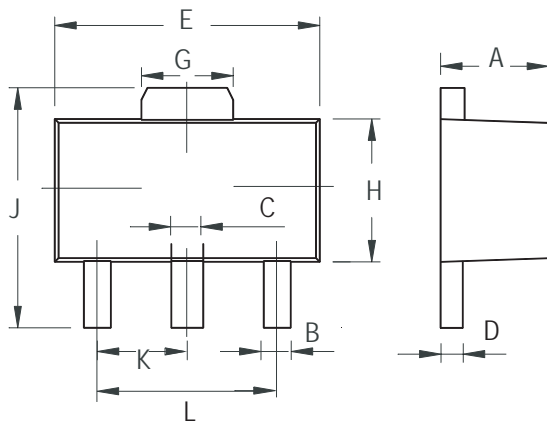
Transition Frequency $V_{CE}=2V, I_E=500mA, f=100MHz$	$f_T$	-	210	-	MHz
Output Capacitance $V_{CB}=10V, I_E=0, f=1MHz$	$C_{ob}$	-	25	-	pF

CLASSIFICATION OF  $h_{FE}$ 

Rank	P	Q
Range	82-180	120-270
Marking	DKP	DKQ

## SOT-89 Outline Dimensions

unit:mm



SOT-89		
Dim	Min	Max
A	1.400	1.600
B	0.320	0.520
C	0.360	0.560
D	0.350	0.440
E	4.400	4.600
G	1.400	1.800
H	2.300	2.600
J	3.940	4.250
K	1.500TYP	
L	2.900	3.100