

High-reliability discrete products  
and engineering services since 1977

### FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Negative and positive repetitive peak off state voltage	$V_{RR}/V_{DR}$	30	V
Maximum RMS on-state current	$I_{T(RMS)}$	0.8	A
Surge on state current, sinusoidal pulse ( $t_p < 10ms$ )	$I_{TSM}$	6	A
Repetitive surge on-state current at $t_p = 6\mu s$ and $f = 40kHz$ sine	$I_T$	2	A
Peak gate forward current	$I_{GFP}$	0.5	A
Repetitive reverse gate voltage	$V_{(KG)R}$	6	V
Storage and junction temperature range	$T_{stg}, T_J$	-40 to +125	°C
Average gate power dissipation	$P_{G(AV)}$	0.01	W
Peak gate power dissipation	$P_{GP}$	0.1	W

### ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ C$ )

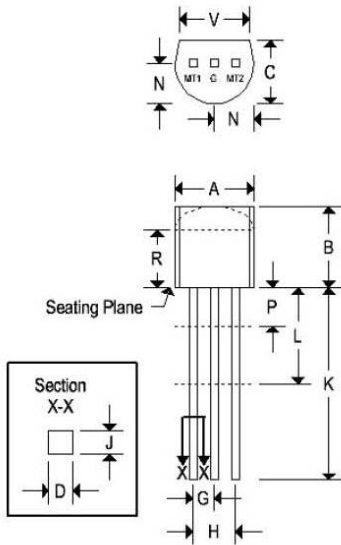
Characteristic	Symbol	Value	Unit
<b>STATIC CHARACTERISTICS</b>			
Continuous reverse blocking and off state current ( $R_{GK} = 1k\Omega$ ) ( $T_J = 125^\circ C$ )	$I_R/I_D$	<2 <50	$\mu A$
Holding current ( $R_{GK} = 1k\Omega$ ) ( $T_J = -40^\circ C$ )	$I_H$	<3 <4	mA
On-state voltage ( $I_{TS} = 1A, t_p = 1ms$ )	$V_T$	<1.5	V
Gate trigger current ( $V_{AK} = 6V, R_L = 100\Omega$ ) ( $T_J = 0^\circ C$ )	$I_{GT}$	<200 <250	$\mu A$
Gate trigger voltage ( $V_{AK} = 6V, R_L = 100\Omega, R_{GT} = 1k\Omega, T_J = 0^\circ C$ )	$V_{GT}$	<0.9	V
Gate non-trigger forward voltage ( $V_D = V_{DR}, R_{GK} = 1k\Omega, T_J = 125^\circ C$ )	$V_{GF}$	>0.1	V
Critical rate of voltage rise ( $R_{GK} = 1k\Omega, T_J = 125^\circ C, V_{AK} = 10V$ )	$dv/dt$	10	V/ $\mu s$
Turn-off time ( $I_{TS(reactangular)} = 1A, t_p = 50\mu s$ )	$t_q$	<6	$\mu s$
Turn-on time ( $V_D = V_{DR}, R_L = 100\Omega, R_{GK} = 1k\Omega, I_{GTS} = 1.4mA, t_p = 5\mu s, t_r = 40ns$ )	$t_{on}$	1.2	$\mu s$

# BR103

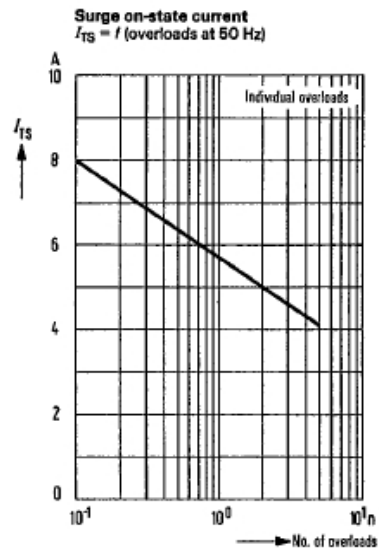
## SILICON PLANAR THYRISTOR

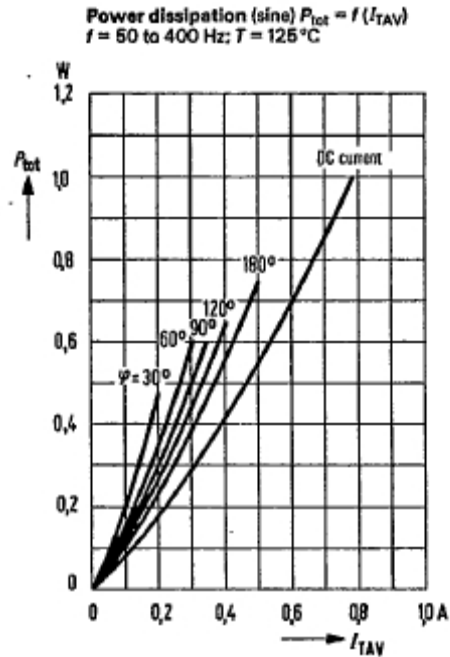
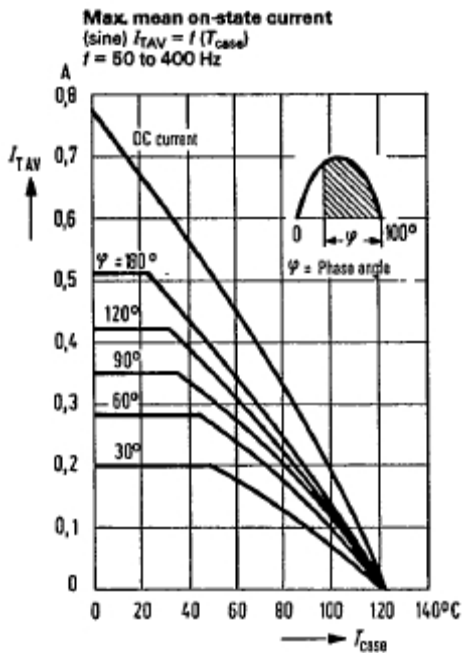
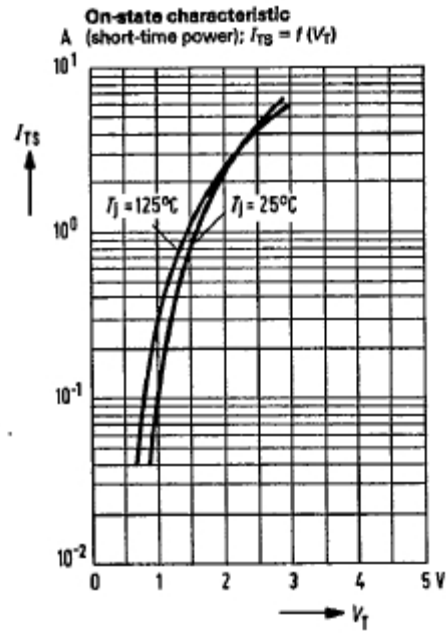
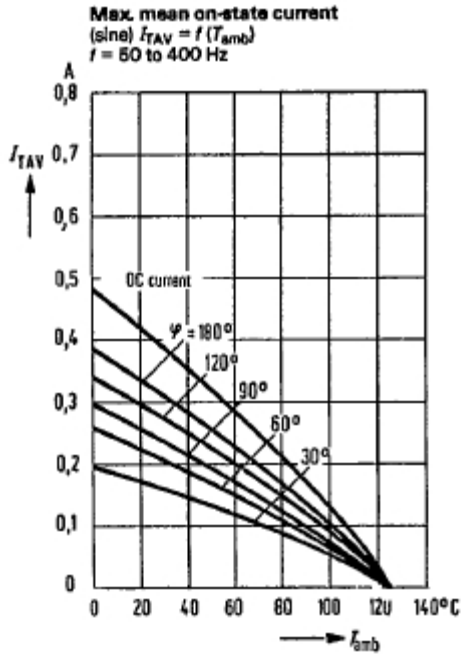
### MECHANICAL CHARACTERISTICS

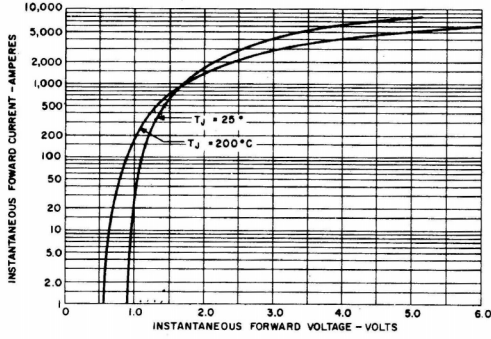
Case	TO-92
Marking	Body painted, alpha-numeric
Pin out	See below



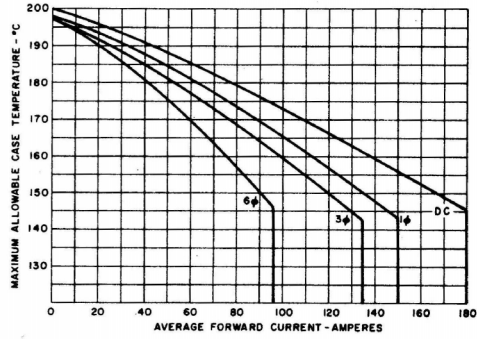
	TO-92			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.175	0.205	4.450	5.200
B	0.170	0.210	4.320	5.330
C	0.125	0.165	3.180	4.190
D	0.016	0.022	0.410	0.550
F	0.016	0.019	0.410	0.480
G	0.045	0.055	1.150	1.390
H	0.095	0.105	2.420	2.660
J	0.015	0.020	0.390	0.500
K	0.500	-	12.700	-
L	0.250	-	6.350	-
N	0.090	0.105	2.040	2.660
P	-	0.100	-	2.540
R	0.115	-	2.930	-
V	0.135	-	3.430	-



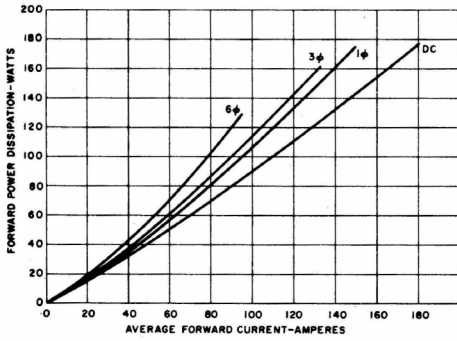




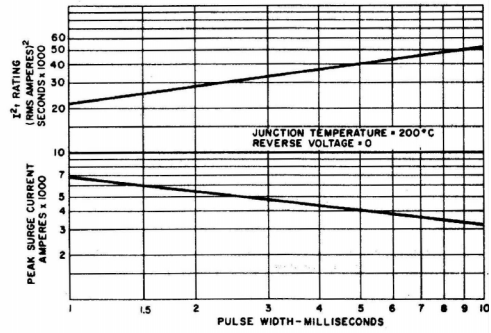
MAXIMUM FORWARD CHARACTERISTICS



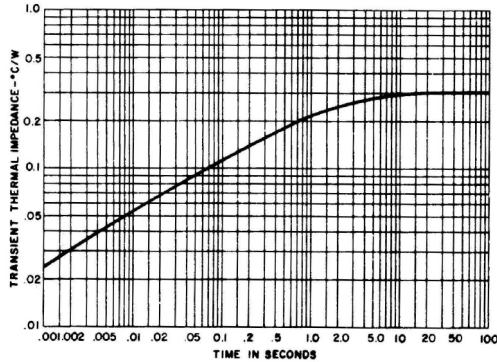
MAXIMUM CASE TEMPERATURE VS.  
AVERAGE FORWARD CURRENT



AVERAGE FORWARD POWER DISSIPATION  
VS. AVERAGE FORWARD CURRENT



SUB-CYCLE SURGE FORWARD CURRENT  
AND  $I^2t$  RATING VS. PULSE TIME  
FOLLOWING RATED LOAD CONDITIONS



TRANSIENT THERMAL IMPEDANCE –  
JUNCTION-TO-CASE