

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
Peak repetitive forward and reverse blocking voltage⁽¹⁾ ($T_j = 25$ to $+125^\circ\text{C}$, gate open)	V_{RRM}, V_{DRM}		
MCR63-1		25	Volts
MCR63-2		50	
MCR63-3		100	
MCR63-4		200	
MCR63-5		300	
MCR63-6		400	
MCR63-7		500	
MCR63-8		600	
MCR63-9		700	
MCR63-10	800		
Non-repetitive peak reverse blocking voltage ($t \leq 5\text{ms}$) ⁽¹⁾	V_{RSM}		
MCR63-1		35	Volts
MCR63-2		75	
MCR63-3		150	
MCR63-4		300	
MCR63-5		400	
MCR63-6		500	
MCR63-7		600	
MCR63-8		700	
MCR63-9		800	
MCR63-10	900		
Forward current RMS	$I_{T(RMS)}$	55	Amps
Peak surge current (one cycle, 60Hz, $T_c = -40$ to $+125^\circ\text{C}$)	I_{TSM}	550	Amps
Circuit fusing considerations ($t = 8.3\text{ms}$)	I^2t	1255	A^2s
Peak gate power	P_{GM}	20	Watts
Average gate power (Pulse width $\leq 2\mu\text{s}$)	$P_{G(AV)}$	0.5	Watts
Peak forward gate current	I_{GM}	2	Amps
Forward peak gate voltage Reverse peak gate voltage	V_{GFM} V_{GRM}	10	Volts
Operating junction temperature range	T_j	-40 to +125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-40 to +150	$^\circ\text{C}$
Mounting torque		30	In. lb.

Note 1: V_{DRM} and V_{RRM} for all types can be applied on a continuous basis without incurring damage. Ratings apply for zero or negative gate voltage. Devices shall not have a positive bias applied to the gate concurrently with a negative potential on the anode.

MCR63 SERIES

SILICON CONTROLLED RECTIFIERS

THERMAL CHARACTERISTICS

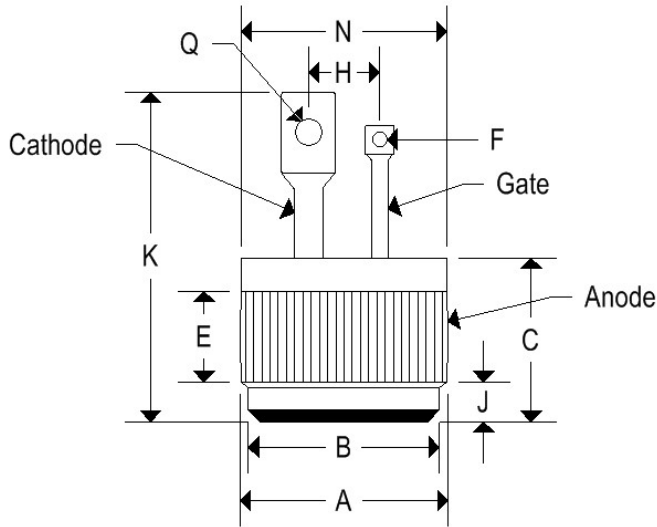
Characteristic	Symbol	Maximum	Unit
Thermal resistance, junction to case Pressfit	$R_{\theta JC}$	1	°C/W

ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	Min.	Max.	Unit
Peak forward or reverse blocking current ($V_{AK} = \text{Rated } V_{DRM} \text{ or } V_{RRM}, \text{ gate open}$) $T_C = 25^\circ\text{C}$ $T_C = 125^\circ\text{C}$	I_{DRM}, I_{RRM}	- -	10 2	μA mA
Forward "on" voltage ($I_{TM} = 175\text{A peak}$)	V_{TM}	-	2	Volts
Gate trigger current (continuous dc) ($V_D = 12\text{V}, R_L = 50\Omega$) $T_C = 25^\circ\text{C}$ $T_C = -40^\circ\text{C}$	I_{GT}	- -	40 75	mA
Gate trigger voltage (continuous dc) ($V_D = 12\text{V}, R_L = 50\Omega$) $T_C = 25^\circ\text{C}$ $T_C = -40^\circ\text{C}$ ($V_D = \text{Rated } V_{DRM}, R_L = 1000\Omega, T_J = 125^\circ\text{C}$)	V_{GT}	- - 0.2	3 3.5 -	Volts
Holding current ($V_D = 12\text{V}, R_L = 50\Omega, \text{ gate open}$)	I_H	-	60	mA
Forward voltage application rate ($V_D = \text{rated } V_{DRM}, T_J = 125^\circ\text{C}$)	dv/dt	50	-	V/ μs

MECHANICAL CHARACTERISTICS

Case:	Digi PF1
Marking:	Body painted, alpha-numeric



	DIGI PF1			
	Inches		Millimeters	
	Min	Max	Min	Max
A	0.501	0.505	12.730	12.830
F	-	0.160	-	4.060
G	0.085	0.095	2.160	2.410
H	0.060	0.070	1.520	1.780
J	0.300	0.350	7.620	8.890
K	-	1.050	-	26.670
L	-	0.670	-	17.020
Q	0.055	0.085	1.400	2.160

FIGURE 1 - AVERAGE CURRENT DERATING

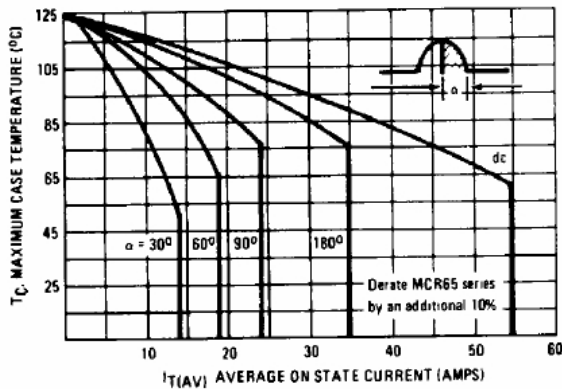


FIGURE 2 - POWER DISSIPATION

