





## Notes on Ratings and Characteristics

### 1.0 Voltage Grade Table

Voltage Grade	$V_{DRM}$ $V_{DSM}$ V	$V_{RRM}$ V	$V_{RSM}$ V	$V_D$ DC V	$V_R$ DC V
12	1200	1200	1300	1300	810
14	1400	1400	1500	1500	930

### 2.0 Extension of Voltage Grades

This report is applicable to other and higher voltage grades when supply has been agreed by Sales/Production.

### 3.0 Extension of Turn-off Time

This Report is applicable to other  $t_q$ /re-applied  $dv/dt$  combinations when supply has been agreed by Sales/Production.

### 4.0 Repetitive $dv/dt$

Higher  $dv/dt$  selections are available up to 1000V/ $\mu$ s on request.

### 5.0 De-rating Factor

A blocking voltage de-rating factor of 0.13%/°C is applicable to this device for  $T_j$  below 25°C.

### 6.0 Snubber Components

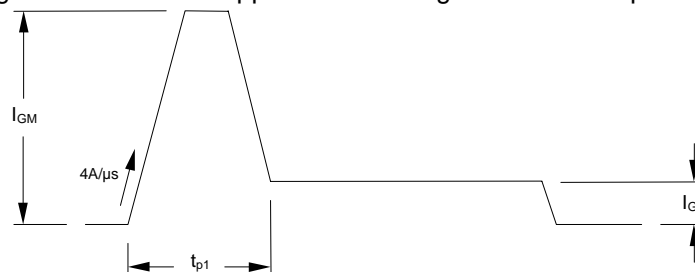
When selecting snubber components, care must be taken not to use excessively large values of snubber capacitor or excessively small values of snubber resistor. Such excessive component values may lead to device damage due to the large resultant values of snubber discharge current. If required, please consult the factory for assistance.

### 7.0 Rate of rise of on-state current

The maximum un-primed rate of rise of on-state current must not exceed 1500A/ $\mu$ s at any time during turn-on on a non-repetitive basis. For repetitive performance, the on-state rate of rise of current must not exceed 1000A/ $\mu$ s at any time during turn-on. Note that these values of rate of rise of current apply to the total device current including that from any local snubber network.

### 8.0 Gate Drive

The nominal requirement for a typical gate drive is illustrated below. An open circuit voltage of at least 30V is assumed. This gate drive must be applied when using the full  $di/dt$  capability of the device.



The magnitude of  $I_{GM}$  should be between five and ten times  $I_{GT}$ , which is shown on page 2. Its duration ( $t_{p1}$ ) should be 20 $\mu$ s or sufficient to allow the anode current to reach ten times  $I_L$ , whichever is greater. Otherwise, an increase in pulse current could be needed to supply the necessary charge to trigger. The 'back-porch' current  $I_G$  should remain flowing for the same duration as the anode current and have a magnitude in the order of 1.5 times  $I_{GT}$ .



















